SSC CHSL 2025 Tier-1 (Held On: 12 Nov, 2025 Shift 3) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2025 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. Identify the part of the sentence that contains a grammatical error.

A. The group of friends B. were going on C. a hiking trip D. next weekend.

(a) The group of friends
(b) were going on
(c) a hiking trip
(d) next weekend.

Q2. Fill in the blank with the most appropriate preposition:

The treaty was signed _____ mutual understanding and cooperation.

(a) by
(b) over
(c) under
(d) with

Q3. Select the most appropriate synonym of the word: DIALECTIC

(a) Monologue
(b) Argumentation
(c) Impressionism
(d) Fantasy

Q4. Choose the correctly spelt word:

(a) Gragarous
(b) Gragerious
(c) Gregarious
(d) Gregareous

Q5. Which of the following sentences uses the word "park" with the same meaning as in the following sentence? "We decided to spend the afternoon playing in the park"

(a) The old car was difficult to park.
(b) The kids ran to the park to play on the swings.
(c) She learned to park her car in a very small space.
(d) Do not park your vehicle here.

Q6. Choose the correctly spelt word:

(a) Ricieve
(b) Receve
(c) Receive
(d) Recieve

Directions

Read the following passage and answer the questions based on it:

International organisations (IOs) have an irreplaceable and diverse role in resolving international conflict, acting as key arenas for diplomacy, mediation, and humanitarian intervention. States can communicate, make treaties, and resolve conflicts without resorting to violence in neutral environments provided by organisations such as the United Nations (UN), regional organisations like the African Union (AU), and specialist organisations. In order to stabilise unstable areas, IOs regularly dispatch peacekeeping operations to monitor ceasefires, protect people, and aid in post-conflict reconstruction. They also serve to enforce international law and human rights, making states accountable for their behaviour and encouraging peaceful coexistence norms. Though their potential is undermined by geopolitical competition, veto powers, and resource constraints, IOs are indispensable for organising multilateral actions to confront complex emergencies, mobilising collective action to avert escalation, reduce suffering, and lay the foundations for sustainable peace in an increasingly interdependent world.

Q7. What is one of the primary roles of international organisations (IO_S) in resolving international conflicts?

(a) To escalate violence for faster conflict resolution
(b) To act as neutral arenas for diplomacy, mediation, and humanitarian intervention
(c) To prevent the formation of treaties between states
(d) To limit communication between conflicting states

Q8. How do international organisations contribute to post-conflict stability, as mentioned in the passage?

(a) By imposing harsh sanctions on the defeated state
(b) By dispatching peacekeeping operations to monitor ceasefires and aid in reconstruction
(c) By promoting military intervention to maintain order
(d) By discouraging communication between conflicting states

Q9. What is a key challenge faced by international organisations in fulfilling their roles, according to the passage?

(a) Increased cooperation between states
(b) Geopolitical competition, veto powers, and resource constraints
(c) Lack of interest in multilateral actions
(d) Excessive funding and support

Q10. According to the passage, how do international organisations help promote peaceful coexistence among states?

(a) By enforcing military control over conflict zones
(b) By making states accountable for their actions and encouraging norms of peaceful coexistence
(c) By restricting communication between conflicting states
(d) By imposing global economic sanctions on rogue states

Q11. What is the meaning of "indispensable" as used in the passage?

(a) Easily replaceable
(b) Essential or absolutely necessary
(c) Optional but useful
(d) Unlikely to succeed

Q12. Choose the correct meaning of the idiom: A bun in the oven

(a) A new house
(b) A new job
(c) A pregnancy
(d) A baking project

Q13. Choose the correct one-word substitute for:

A place where you can buy medicines

(a) Pharmacy
(b) Supermarket
(c) Hospital
(d) Clinic

Q14. Select the most appropriate antonym of the word: Vexatious

(a) Pleasant
(b) Annoying
(c) Troublesome
(d) Irritating

Q15. Choose the correct one-word substitute for:

A technique creating narrative rhythm.

(a) Personification
(b) Joke
(c) Story
(d) Repetition

Q16. Change the following sentence into the Active form.

The championship game was won by our team.

(a) Our team won the championship game.
(b) The championship game was winning our team. team.
(c) Our team wins the championship game.
(d) The championship game had been won by our team.

Q17. Select the option that expresses the given sentence in indirect voice.

He will tell her, "I have already finished my work."

(a) He will tell her that he had already finished his work.
(b) He will tell her that he has already finished his work.
(c) He will tell her that he already finished his work.
(d) He will tell her that he would have finished his work.

Q18. Choose the most suitable option to replace the highlighted part of the sentence:

Shyamlal, the businessman and philanthropist, were starting a new business venture for famers.

(a) are starting a new business venture
(b) ware starting a new business venture
(c) is starting a new business venture
(d) starts a new business venture

Q19. Choose the most suitable option to replace the highlighted part of the sentence:

It is difficult to diagnose malaria because its first symptoms are similar to any viral fever.

(a) are similar to all fevers
(b) are similar to those of any viral fever
(c) is similar to those of any other viral fever
(d) is similar to those of any viral fevers

Q20. Choose the correct passive voice transformation of the sentence:

The skilled programmer has written an elegant and efficient code to solve the intricate problem.

(a) An elegant and efficient code was written by the skilled programmer to solve the intricate problem.
(b) An elegant and efficient code has been written by the skilled programmer to solve the intricate problem.
(c) An elegant and efficient code has been being written by the skilled programmer to solve the intricate problem.
(d) An elegant and efficient code is written by the skilled programmer to solve the intricate problem.

Q21. Choose the correct passive voice transformation of the sentence:

What had they done to ensure the project's success before the official launch?

(a) What was done by them to ensure the project's success before the official launch?
(b) What had been done by them to ensure the project's success before the official launch?
(c) What has been done by them to ensure the project's success before the official launch?
(d) What had been doing by them to ensure the project's success before the official launch?

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Q22. Select the option that expresses the given sentence in direct speech.

The old man, with a nostalgic smile, said that he had visited that small town many times in his youth.

(a) The old man said, "I visited that small town many times in my youth."
(b) The old man said, "He had visited that small town many times in his youth."
(c) The old man said, "I have visited this small town many times in my youth."
(d) The old man said, "I had visited this small town many times in my youth."

Q23. Select the option that expresses the given sentence in direct voice.

The manager told the team that their recent performance had been impressive, but that they had to now focus on the upcoming project which was a much bigger challenge, and he was confident that they would succeed in it.

(a) "Your recent performance was impressive, but you must now focus on the upcoming project which is a much bigger challenge, and I am confident that you will succeed in it," the manager said to the team.
(b) "Your recent performance has been impressive, but you have to now focus on the upcoming project which is a much bigger challenge, and I am confident that you will succeed in it," the manager said to the team.
(c) "Your recent performance has been impressive, but you must now focus on the upcoming project which is a much bigger challenge, and I am confident that you will succeed in it," the manager said to the team.
(d) "Their recent performance was impressive, but they had to now focus on the upcoming project which was a much bigger challenge, and he was confident that they would succeed in it," the manager said to the team.

Q24. Rearrange the following sentence parts to form a meaningful and grammatically correct paragraph:

P. He took great care to remove the old, flaking paint from the antique table.
Q. He smoothed the wood using fine sandpaper to bring out the original grain.
R. He added a final layer of varnish for protection and a new stain.
S. The table had been carefully refurbished and was no longer worn out and ancient.

(a) Q, R, P, S
(b) S, Q, R, P
(c) P, Q, R, S
(d) P, S, R, Q

Q25. Rearrange the following sentence parts to form a meaningful and grammatically correct paragraph:

P. The paradox highlights how having more choices can lead to increased anxiety and a feeling of dissatisfaction.
Q. In a consumer-driven society, people are often presented with an overwhelming array of options.
R. This can result in a phenomenon known as "the paradox of choice."
S. It suggests that while we desire freedom, an excess of it can be psychologically detrimental.

(a) S, R, P, Q
(b) P, R, Q, S
(c) R, S, P, Q
(d) Q, R, P, S

GENERAL INTELLIGENCE

Q26. Here some problem or solution of the problem is given in the statement you have to choose the appropriate logical deduction for given statement.

Statement: Remote work has become increasingly popular among professionals, leading to improved work-life balance for many employees. Companies have reported reduced overhead costs due to smaller office spaces and lower utility bills. However, some organizations struggle with maintaining team cohesion and effective communication, resulting in decreased productivity in certain departments. Research indicates that hybrid work models combining remote and office work may offer the best of both approaches.

Conclusions:

I. Remote work always leads to decreased productivity in organizations.

II. Companies benefit financially from remote work arrangements.

III. Hybrid work models are superior to purely remote or office-based work.

Which conclusion necessarily follows?

(a) Only I follows
(b) Only II follow
(c) Only III follow
(d) Both II and III follow

Q27. Each item describes a situation and is followed by four possible responses. Indicate the response you find most appropriate. Choose only one response for each item. The responses will be evaluated based on the level of appropriateness for the given situation.

Shruti runs a successful online business. She's been offered a partnership by a bigger company that wants to acquire 60% of her brand. While the financial gains are high, she'll lose major control over decisions. Her brand is built on personal touch and customer trust. What is the best course of action?

(a) Accept immediately for financial gain
(b) Decline outright to retain autonomy
(c) Negotiate for a smaller stake and partial control
(d) Close her business and look for a new venture

Q28. In this type of questions, question is provided with substitutes for various mathematical symbols, followed by a question involving calculation of an expression or choosing the correct/incorrect equation. You have to put the real signs in the given equation and then solve the questions as required.

If '!' stands for '+', '?' stands for '-', '%' stands for '+', '^' stands for 'x', then find the value of: 10?5^6^12=?

(a) -349
(b) -351
(c) 360
(d) -350

Q29. Your partner in a volunteer group takes last-minute changes personally and withdraws. How to bring them back?

(a) Ignore and continue without them
(b) Blame them for overreacting
(c) Replace them silently
(d) Acknowledge their feelings, explain reasons, and invite their input for future decisions

Q30. In a queue of 45 people, Mohan is 16th from the front and Sohan is 12th from the rear. How many people are standing between Mohan and Sohan?

(a) 16
(b) 17
(c) 18
(d) 19

Q31. In each question below is given a statement followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and on the basis of the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

Statement: Reports indicate that several children in rural areas are dropping out of school due to lack of mid-day meals.

Course of action I: Introduce a robust mid-day meal program in rural schools.

Course of action II: Make education optional for children in rural areas.

(a) Only I follows
(b) Only II follows
(c) Both follow
(d) Either I or II follows

Q32. Few of the letters are given followed by a question mark (?) these letters are following a specific pattern you have to give the correct option which can replace question mark.

Which letter should come next in the following series: A, D, G, J, ?

(a) M
(b) N

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(c) 0
(d) P

Q33. In this question some conditions or circumstances is provided to you, you have to make logical judgement according to mentioned circumstances and mark the correct judgement for question.

A hiring manager must fill a tech role. All applicants meet technical criteria, but one also shows strong teamwork and leadership. Who should be selected?

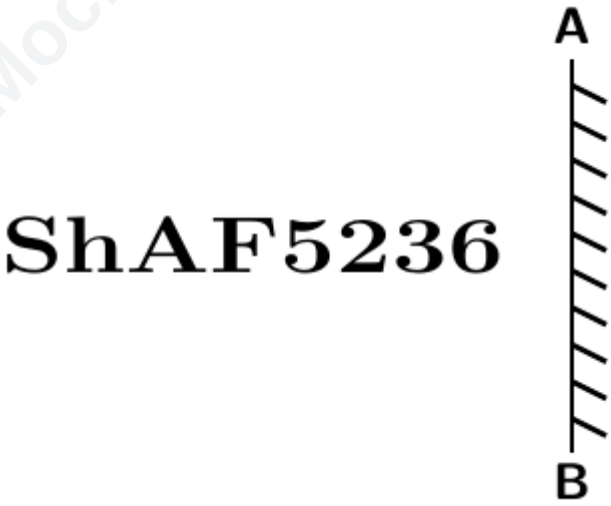
(a) Applicant with highest test score
(b) Applicant with most degrees
(c) Applicant with strong teamwork and leadership
(d) Applicant with longest resume

Q34. Four meaningful words are given in the options you have to check that which of the following words cannot be formed from the letters.

'CONSTRUCTION'?

(a) SUCTION
(b) COINS
(c) TION
(d) MOTION

Q35. A mirror is placed on the line AB. Out of the option figures which figure will be the right image of the question figure?



(a)



(b)



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(c)



(d)



Q36. In this type of questions, question is provided with some issues/disputes/problem, followed by few methods to resolve the problem in statement choosing the appropriate problem solving method that can be implemented.

During a cultural festival, two community groups claim the same venue for their performances. How should the organizer decide?

(a) Give it to the bigger group
(b) Split the venue time and coordinate schedules
(c) Ask one group to cancel
(d) Hold a coin toss

Q37. In this type of questions, question is provided with some issues/disputes/problem, followed by few methods to resolve the problem in statement choosing the appropriate problem solving method that can be implemented.

A school bus route is inefficient causing delays. Logical improvement?

(a) Redesign route using student locations and pick optimal path
(b) Charge students extra
(c) Keep same route to avoid change
(d) Add more buses regardless of cost

Q38. In each of the following questions, there is a certain relationship between two given letter pairs on one side of (::) and pair is given on another side of (::) where another pair is to be found from the given alternatives, having the same relationship with this pair as the pairs of the given pair bear. Choose the best alternative.

TR : RT :: UV : ?

(a) UV
(b) TW
(c) VW
(d) VU

Q39. Find the next element that replace the ? Logically

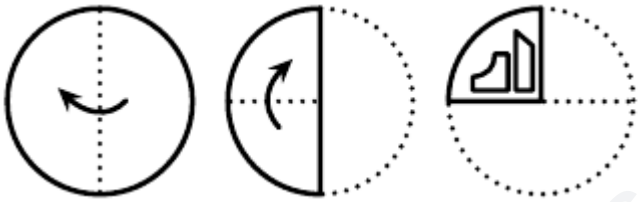
6, 15, 51, 195, ?

(a) 776
(b) 771
(c) 768
(d) 791

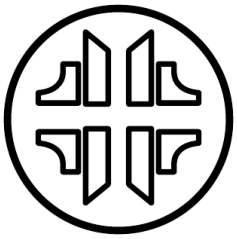
Q40. In three of the following pairs are same by same pattern except one pair. Which pair does not follow this pattern?

(a) 9,16
(b) 16,25
(c) 25,36
(d) 36,64

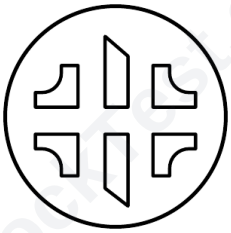
Q41. A piece of paper is folded and punched as shown below in the question figures. From the given option figures, indicate how it will appear when opened.



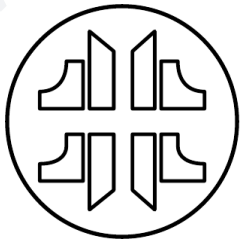
(a)



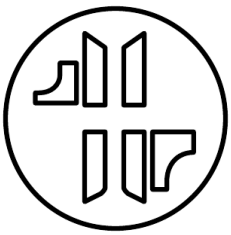
(b)



(c)

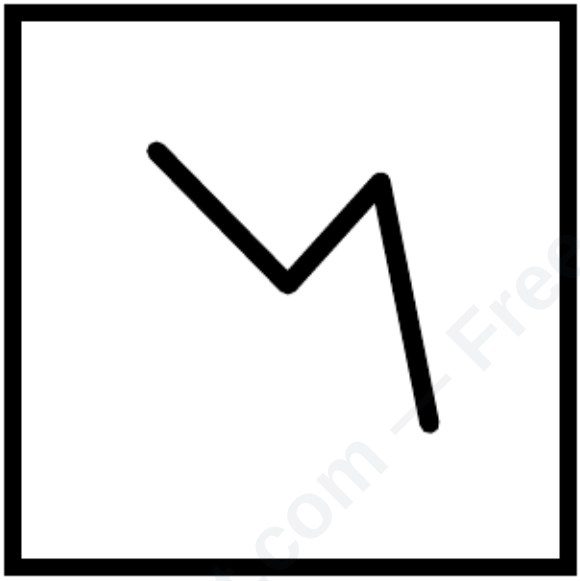


(d)

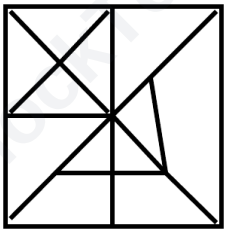


Q42. From the given option figures, select the one in which the question figure is hidden/embedded. (Rotation is not allowed)

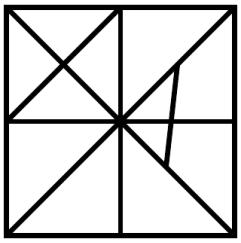
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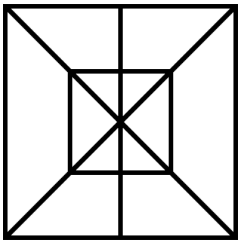
(a)



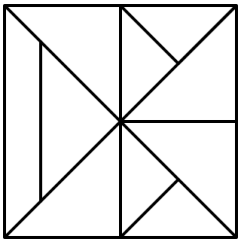
(b)



(c)



(d)



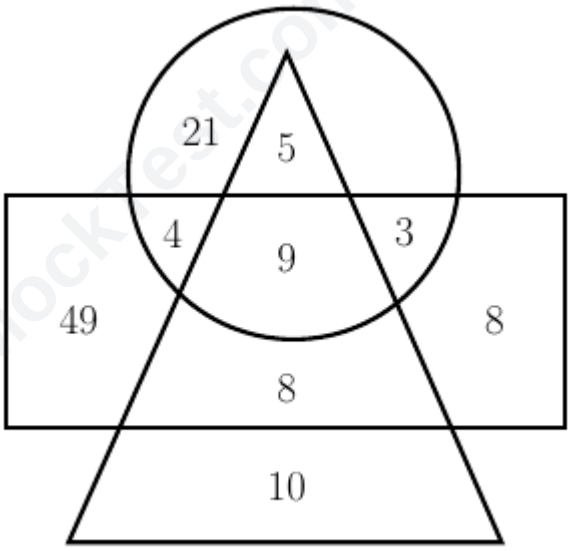
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Q43. In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.

7	6	3	32
9	5	8	44
11	?	3	40

(a) 6
(b) 7
(c) 8
(d) 9

Q44. In the figure given below the circle represents dogs, the rectangle represents cats and the triangle represents cows. Number in each area represents the number of items in that area.



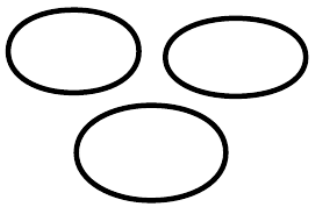
How many cows are neither dogs nor cats?

(a) 15
(b) 18
(c) 10
(d) 13

Q45. Identify the diagram that best represents the relationship among the given classes.

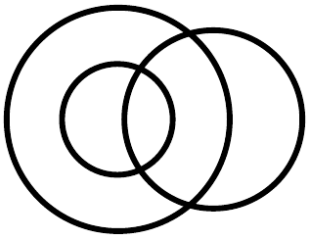
Engineer, Doctor, Lawyer

(a)

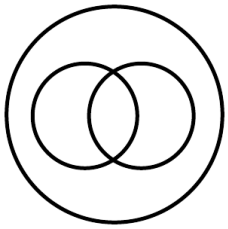


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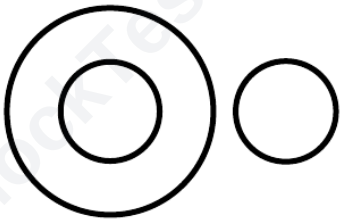
(b)



(c)



(d)



Q46. Select the option that represents the correct order of the given words as they they would appear in an English dictionary.

1.Archaeology

2.Archeologist

3.Archipelago

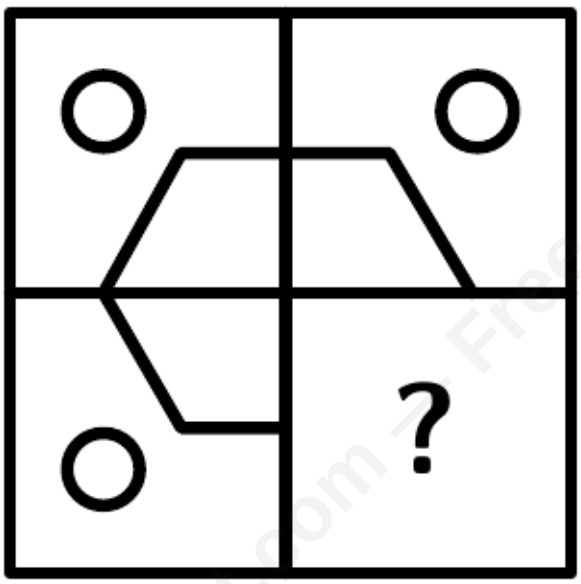
4. Architectural

5. Architecture

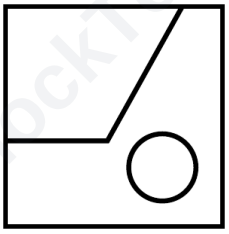
(a) 1, 2, 3, 4, 5
(b) 2, 1, 3, 4, 5
(c) 1, 3, 2, 4, 5
(d) 3, 1, 2, 4, 5

Q47. Which option figure will complete the pattern in the question figure? (Rotation is not allowed)

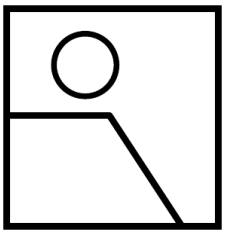
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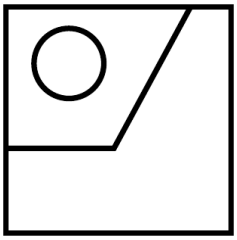
(a)



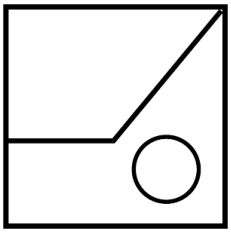
(b)



(c)



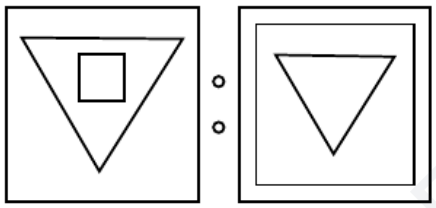
(d)



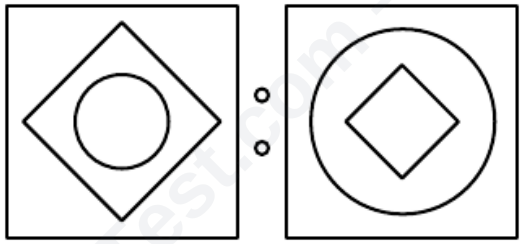
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Q48. In the following question, in each option a pair of figures is given. In each pair the figure towards the left of (:) is related by some logic/rule/relation with the figure on the right of (:). Select the odd figure pair from the given alternatives.

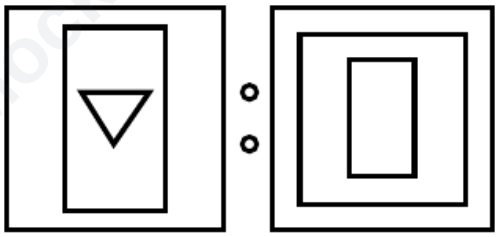
(a)



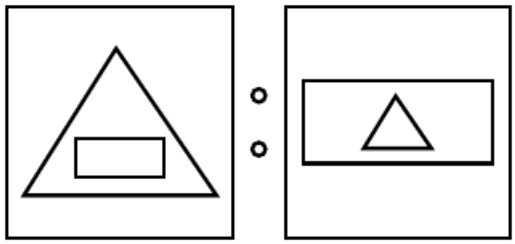
(b)



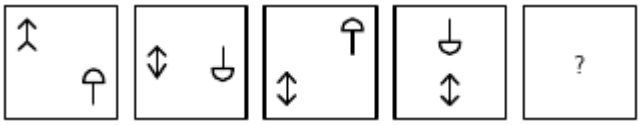
(c)



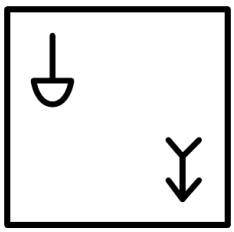
(d)



Q49. In the following figure series, select the figure which can be placed at the sign of question mark (?) from the given alternatives.

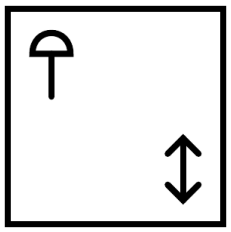


(a)

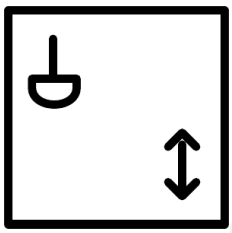


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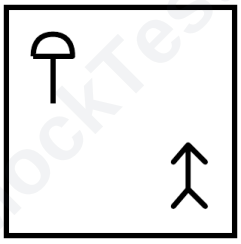
(b)



(c)



(d)



Q50. In a certain coded language 'AWLS' is coded as 'EBPX' and 'ARCS' is coded as 'EWGX'. How will 'BATS' be coded in the same code language?

(a) EEVX
(b) EDYY
(c) FFXX
(d) DFZW

QUANTITATIVE APTITUDE

Q51. Three partners share the profit in a business in the ratio 6:8:9. They invested for 14 months, 8 months, and 7 months, respectively. What is the ratio of their investments?

(a) 3:7:9
(b) 20:49:64
(c) 38:28:21
(d) 6:8:9

Q52. Simplify the expression: $\sin^2 x + \cos^2 x + \tan^2 x$.

(a) 1
(b) $\cot^2 x$
(c) $\sec^2 x$
(d) 596

Q53. The ratio of the profit to the cost price is 3: 8. What is the ratio of the selling price to the cost price?

(a) 8:5
(b) 11:8
(c) 8:11
(d) 5:8

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Q54. If a ratio of 7:9 represents the number of apples and oranges in a basket, and there are 63 apples, how many oranges are there?

(a) 72
(b) 81
(c) 90
(d) 84

Q55. The difference between the CI and SI on a sum for 2 years at 15% p.a. is Rs. 360. What is the principal?

(a) Rs. 15,000
(b) Rs. 16,000
(c) Rs. 18,000
(d) Rs. 20,000

Q56. An amount of Rs. 2,00,000 is invested at 10% per annum compound interest. After 1 year, the investor withdraws 20,000 from the balance. What will be the total amount remaining in the account at the end of the 2nd year?

(a) Rs. 2,18,000
(b) Rs. 2,20,000
(c) Rs. 2,24,200
(d) Rs. 2,25,800

Q57. The average of 50 numbers was calculated as 38. Later it was found that two numbers were wrongly taken as 33 and 27 instead of 23 and 17. What is the correct average?

(a) 39
(b) 38.2
(c) 37.6
(d) 36

Q58. When 13511, 13903, and 14589 are divided by the greatest number 'n', the remainder is 'm'. What is the value of (n + m)?

(a) 131
(b) 183
(c) 151
(d) 161

Q59. The price of a bike increases by 20% in the first year and then decreases by 10% in the second year. If its final price becomes 59,400, find the original price of the bike.

(a) Rs. 50,000
(b) Rs. 55,000
(c) Rs. 60,000
(d) Rs. 58,000

Q60. A truck travels to a town at 30 km/h and returns at 20 km/h. If the total time taken is 5 hours, what is the one-way distance to the town?

(a) 30 km
(b) 45 km
(c) 60 km
(d) 75 km

Q61. A and B together can do a piece of work in 10 days. B alone can do it in 15 days. How long will A alone take to complete the work?

(a) 20 days
(b) 25 days
(c) 30 days
(d) 35 days

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Q62. In a trapezium ABCD with AB || CD, the diagonals AC and BD intersect at O. The area of Δ COD = 8cm². If AB = 2CD, what is the area of Δ AOB?

(a) 32 cm²
(b) 40 cm²
(c) 48 cm²
(d) 56cm²

Q63. In a scheme, a shopkeeper offers a 10% discount if you buy two or more books. Kiran buys two books for Rs. 540. If the shopkeeper still makes a 20% profit, find the profit he would make had he sold the books without the discount.

(a) Rs. 120
(b) Rs. 150
(c) Rs. 180
(d) Rs. 200

Q64. The simple interest on a certain sum is one-fourth of the principal, and the number of years is equal to the rate of interest per annum. What is the rate of interest?

(a) 10%
(b) 5%
(c) 15%
(d) 20%

Q65. A rectangular sheet of paper with dimensions 44 cm by 10 cm is rolled into a right circular cylinder with the 10 cm side becoming the height. What is the approximate volume of the cylinder?

(a) 1890 cubic cm
(b) 1978 cubic cm
(c) 1482 cubic cm
(d) 1540 cubic cm

Q66. The value of $14^2 + 87^2$ is the same as which of the following?

(a) 172 + 482
(b) 412 + 782
(c) 182 + 472
(d) 812 + 742

Q67. A 40 kg alloy of German Silver contains Copper and Zinc in some proportion. It has 10% Zinc. How much pure Zinc (in kg) should be added to the alloy so that the new mixture contains 20% Zinc?

(a) 4 kg
(b) 5 kg
(c) 6 kg
(d) 8 kg

Q68. A hemispherical shell has an inner radius of 12 cm and an outer radius of 13 cm. Calculate the volume of the material forming the shell.

(a) 983π/3 cm³
(b) 938π/3 cm³
(c) 926π/3 cm³
(d) 838π/3 cm³

Q69. A tank is 3/5 full of water. If 20 liters of water is added, it becomes 7/10 full. What is the full capacity of the tank?

(a) 250 liters
(b) 200 liters
(c) 150 liters
(d) 100 liters

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Q70. The centroid of a triangle is the center of mass. If the coordinates of the vertices are A(2,3), B(4,5), and C(6,7), what is the centroid of the triangle?

(a) (4,5)
(b) (3,4)
(c) (4,4)
(d) (4,6)

Q71. If the ratio of the perimeters of two similar triangles is a : b, what is the ratio of their areas?

(a) √a : √b
(b) $a^2 : b^2$
(c) a : b
(d) $a : b^2$

Q72. Rationalize the denominator:

4/(√7 + √5)

(a) (√7 - √5)
(b) 2(√7 - √5)
(c) 9(7 - √5)
(d) 12(√5 - √5)

Q73. Simplify: $(x+y)^3+(y+z)^3+(z+x)^3-3(x+y)(y+z)(z+x)/(x^3+y^3+z^3-3xyz)$

(a) 4
(b) 2
(c) 6
(d) 1

Q74. Simplify the expression:

sin^4(x) - cos^4(x).

(a) • cos2(x)
(b) 1
(c) $\sin^2(x)$
(d) $\sin^2(x) - \cos^2(x)$

Q75. A line passes through the points (1, 3) and (4, 9). Find the equation of the line in slope-intercept form.

(a) y = 5x + 2
(b) y = 3x + 1
(c) y = 7x + 2
(d) y = 2x + 1

GENERAL AWARENESS

Q76. Which of the following article of the Indian constitution promotes equal justice and free legal aid?

(a) Article 39 A
(b) Article 38
(c) Article 45
(d) Article 42

Q77. Who among the Following was awarded the Bharat Ratna in 2024?

(a) Lata Mangeshkar (Posthumous)
(b) Bih Atal Bihar Vajpayee (Posthumous)
(c) Karpoori Thakur (Posthumous)
(d) Sachin Tendulkar

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Q78. In the Union Budget 2025-26, the government has allocated Rs. 20000 crores for an initiative aiming to develop at least _____ indigenously designed and operational SMRs by 2033.

(a) 2
(b) 5
(c) 10
(d) 8

Q79. India is ranked _____ in the World Happiness Report published in March 2025.

(a) 95th
(b) 126th
(c) 118th
(d) 111th

Q80. As per the State of the World's Children 2024, by 2050s more than a third of the world's children will live in four countries. Which of the following is NOT one of them?

(a) China
(b) Nigeria
(c) Pakistan
(d) Sudan

Q81. Which of the following became India's first fully solar powered district in May 2025?

(a) Bhopal
(b) Indore
(c) Diu
(d) Nicobar

Q82. Ashwini Bhide Deshpande is a renowned vocalist associated with which Gharana?

(a) Banaras Gharana
(b) Patiala Gharana
(c) Kirana Gharana
(d) Jaipur-Atrauli Gharana

Q83. Who is the author of the book 'In an Antique Land'?

(a) Amitav Ghosh
(b) Manu Joseph
(c) Neel Mukherjee
(d) Siddharth Dhanvant Shanghvi

Q84. Who is the author of the book 'Love Is Always Right and Other Musings'?

(a) Ravinder Singh
(b) Vinita Dawra Nangia
(c) Ravi Subramanian
(d) Novoneel Chakraborty

Q85. Which of the following folk dance of Chhattisgarh is also known as 'Parrot dance'?

(a) Suwa Dance
(b) Kolatam Dance
(c) Lambadi Dance
(d) Aoling Monyu Dance

Q86. In the context of space research in India, what does "N" stands for in INCOSPAR? ?

(a) National
(b) Nano
(c) Neutrino
(d) Nodal

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Q87. Weight of an object on earth is 441 N. What is the mass of the object?

(a) 49 kg
(b) 41 kg
(c) 40 kg
(d) 45 kg

Q88. According to NASA' research, which planet's rings are disappearing at a worst-case-scenario rate?

(a) Saturn
(b) Uranus
(c) Jupiter
(d) Neptune

Q89. Around 1713, Sawai Raja Jai Singh of Amer was appointed governor of which region?

(a) Bengal
(b) Lahore
(c) Agra
(d) Malwa

Q90. Which of the following is correct regarding Sale of government assets like sale of shares in Public sector unit (PSU)?

(a) It creates liability for the government
(b) Amount comes from sale of shares are part of capital receipts
(c) Amount comes from sale of shares are part of revenue receipts
(d) It does not reduce the total assets of the government

Q91. Following the Industrial Policy _____ of India the government has set up a special board known as Foreign Investment Promotion Board.

(a) 1948
(b) 1956
(c) 1977
(d) 1991

Q92. Rani Lakshmibai was defeated and killed in _____.

(a) June 1858
(b) September 1860
(c) January 1861
(d) March 1863

Q93. In 2001-02, excise duty structure was rationalized to a single rate of _____ per cent CENVAT (Central Value Add Tax).

(a) 16
(b) 25
(c) 8
(d) 32

Q94. The Contingency Fund of an Indian State is held by _____.

(a) Chief Minister
(b) Finance Minister
(c) Governor
(d) State Legislature Speaker

Q95. Which of the following port is confronted with the problem of silt accumulation in the Hugli River?

(a) Kolkata port
(b) Kochchi port
(c) Tuticorin port
(d) Chennai port

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Q96. What was the primary function of Planning Commission of India?

(a) To control the inflation.
(b) To boost the foreign trade.
(c) To formulate and implement five year plans.
(d) To monitor the currency exchange system in India.

Q97. The National Youth Policy in India launched in February _____.

(a) 2001
(b) 2014
(c) 2017
(d) 2018

Q98. Which organ of digestive system secretes the enzyme lipase for digesting emulsified fats in humans?

(a) Gall bladder
(b) Liver
(c) Pancreas
(d) Small intestine

Q99. Which of the following statement is correct regarding haemoglobin in humans?

I. In humans it is the respiratory pigment
II. It has very low affinity for oxygen

(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

Q100. The summaries of conferences held in ancient India were called _____.

(a) Ganas
(b) Vedas
(c) Puranas
(d) Samhitas

ANSWER KEY

1	b	2	d	3	b	4	c	5	b	6	c	7	b	8	b	9	b	10	b
11	b	12	c	13	a	14	a	15	d	16	a	17	b	18	c	19	b	20	b
21	b	22	c	23	b	24	c	25	d	26	b	27	c	28	d	29	d	30	b
31	a	32	a	33	c	34	d	35	b	36	b	37	a	38	d	39	b	40	d
41	a	42	a	43	a	44	c	45	a	46	a	47	a	48	c	49	d	50	c
51	a	52	c	53	b	54	b	55	b	56	b	57	c	58	b	59	b	60	c
61	c	62	a	63	b	64	b	65	d	66	b	67	b	68	b	69	b	70	a
71	b	72	b	73	b	74	d	75	d	76	a	77	c	78	b	79	c	80	d
81	c	82	d	83	a	84	b	85	a	86	a	87	d	88	a	89	d	90	b
91	d	92	a	93	a	94	c	95	a	96	c	97	b	98	c	99	a	100	d

SOLUTIONS

Q1. Answer: (b) were going on

The correct answer is '2' i.e. were going on.

Key Points

• The subject of the sentence is "The group of friends", which is a collective noun.

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• Collective nouns are generally treated as singular unless the context clearly indicates plural usage.
• Therefore, the correct verb form here should be "was" instead of "were".
Correct sentence: The group of friends was going on a hiking trip next weekend.
Additional Information
• Collective Nouns:
• When referring to a group as a single entity, use singular verbs (e.g., "The team is winning").
• When emphasizing the individuals in the group, use plural verbs (e.g., "The team are arguing among themselves").
• Verb Agreement Rules:
• Always ensure the verb agrees with the subject in both number and tense.
• For subjects joined by "and," use plural verbs (e.g., "John and Mary are coming").

Q2. Answer: (d) with

The correct answer is '4' i.e. with.
Key Points
• The given sentence emphasizes the conditions under which a treaty was signed, which involves mutual understanding and cooperation.
• The most appropriate preposition to indicate the conditions or basis of an agreement is "with".
• "With" is commonly used to describe agreements or partnerships based on shared principles or mutual understanding.
Correct sentence: The treaty was signed with mutual understanding and cooperation..
Additional Information
• Usage of Prepositions:
• "By" is used to indicate the agent or means of an action (e.g., "signed by the president").
• "Over" is used to indicate disputes or discussions (e.g., "debated over the issue").
• "Under" is used to indicate conditions or rules (e.g., "under the agreement").
• "With" is used to indicate collaboration, partnership, or mutual agreement.

Q3. Answer: (b) Argumentation

The correct answer is '2' i.e. Argumentation.
Key Points
• The word "Dialectic" refers to the art or practice of logical discussion and reasoning, particularly for investigating the truth of opinions.
• Among the given options:
• Monologue: A speech by one person, often without interaction (incorrect).
• Argumentation: Logical reasoning or debate used to investigate the truth (correct).
• Impressionism: A style of art focusing on visual impressions, unrelated to logical reasoning (incorrect).
• Fantasy: Imagination-based ideas, unrelated to logical discussion (incorrect).
Correct answer: Argumentation, which aligns with the meaning of the word "Dialectic."
Additional Information
• Dialectic is often associated with debates or discussions where reasoning is used to explore contradictions and reach the truth.
• It is a key concept in philosophy, particularly in the works of thinkers like Plato and Hegel.

Q4. Answer: (c) Gregarious

The correct answer is '3' i.e. Gregarious.
Key Points
• The word Gregarious means someone who is sociable, fond of company, or enjoys being in groups.
• Among the given options, option 3 is the correctly spelt word.
• Other options—Gragarous, Gragerious, and Gregareous—are incorrectly spelt and do not exist in the English vocabulary.
Correct Usage: He is a gregarious person who loves socializing and meeting new people.
Additional Information
• Etymology of Gregarious:
• The word Gregarious comes from the Latin word gregarius, meaning "belonging to a flock or herd."
• It is often used to describe animals or people who prefer living in groups.
• Similar Words: Sociable, outgoing, convivial.

Q5. Answer: (b) The kids ran to the park to play on the swings.

The correct answer is '2' i.e. The kids ran to the park to play on the swings.

Key Points

• In the given sentence, the word "park" refers to a place (an open area with grass, trees, and recreational facilities) where people can relax or play.

• Among the options, Option 2 uses "park" with the same meaning: "The kids ran to the park to play on the swings." Here, "park" also refers to a recreational space.

• Options 1, 3, and 4 use the word "park" to refer to the act of stopping and placing a vehicle in a specific location, which is a different meaning.

Correct sentence: We decided to spend the afternoon playing in the park, and the kids ran to the park to play on the swings.

Additional Information

• The word "park" can have multiple meanings depending on the context:

• Place for recreation: An open area for public use, such as a playground or garden.

• Vehicle parking: The act of stopping and leaving a vehicle in a designated location.

• It is essential to analyze the context of the sentence to determine the correct meaning.

Q6. Answer: (c) Receive

The correct answer is '3' i.e. Receive.

Key Points

• The word "Receive" is correctly spelt.

• The spelling rule for words like "Receive" is based on the famous mnemonic: "I before E except after C."

• Among the given options, only "Receive" follows the correct spelling rule and is an actual word used in English.

Correct spelling: Receive.

Additional Information

• Commonly Misspelled Words:

• Recieve: Incorrect because it violates the "I before E except after C" rule.

• Ricieve: Incorrect as "Ci" is not a valid combination in English spelling for this word.

• Receve: Incorrect as it omits the "i" in the correct spelling.

• Mnemonic for Spelling: Use "I before E except after C" to remember the correct spelling of words like "Receive" and "Deceive."

Q7. Answer: (b) To act as neutral arenas for diplomacy, mediation, and humanitarian intervention

The correct answer is Option 2.

Key Points

• The passage explicitly identifies the role of IOs in the very first sentence: "acting as key arenas for diplomacy, mediation, and humanitarian intervention."

• It further explains that these organisations provide "neutral environments" where states can communicate and resolve conflicts without resorting to violence.

• Why other options are incorrect:

• Option 1: The text states IOs help states resolve conflicts "without resorting to violence," which is the opposite of escalating it.

• Option 3: The passage says IOs allow states to "make treaties," not prevent them.

• Option 4: The text highlights that IOs provide a platform where "states can communicate," thereby facilitating rather than limiting communication.

Therefore, the correct answer is 2.

Analytical Insight: In exams, reading comprehension questions on international relations often focus on the "functional" purpose of institutions. The keyword here is "Neutral," which is the primary value proposition of an IO in a conflict scenario.

Additional Information

• Mediation: Intervention in a dispute in order to resolve it; arbitration.

• Multilateral: Agreed upon or participated in by three or more parties, especially the governments of different countries.

• Geopolitical: Relating to politics, especially international relations, as influenced by geographical factors.

• Veto Power: The power or right vested in one branch of a government or a specific member (like the P5 in the UN) to cancel or postpone the decisions of another.

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Q8. Answer: (b) By dispatching peacekeeping operations to monitor ceasefires and aid in reconstruction

The correct answer is Option 2.

Key Points

• The passage specifically addresses post-conflict stability by stating: "In order to stabilise unstable areas, IOs regularly dispatch peacekeeping operations to monitor ceasefires, protect people, and aid in post-conflict reconstruction."

• This direct evidence confirms that the contribution involves active monitoring and rebuilding efforts rather than punitive or purely military measures.

• Why other options are incorrect:

• Option 1: The passage does not mention "harsh sanctions" or the concept of a "defeated state."

• Option 3: While IOs "dispatch peacekeeping operations," the passage emphasizes "peaceful coexistence norms" and resolving conflicts "without resorting to violence," which contrasts with promoting general "military intervention."

• Option 4: The text asserts that IOs provide environments where "States can communicate," meaning they encourage rather than discourage communication.

Therefore, the correct answer is 2.

Analytical Insight: In exams, the distinction between "Peacekeeping" and "Military Intervention" is crucial. Peacekeeping is described here as a stabilizing force (monitoring and reconstruction) rather than a primary combatant force.

Additional Information

• Post-conflict reconstruction: The process of rebuilding the social, economic, and physical infrastructure of a region after a war.

• Ceasefire: A temporary suspension of fighting; a truce.

• Multilateral actions: Collaborative efforts involving three or more states or parties.

• Interdependent: Mutually reliant on each other; a key characteristic of the modern globalized world described in the text.

Q9. Answer: (b) Geopolitical competition, veto powers, and resource constraints

The correct answer is Option 2.

Key Points

• The passage identifies several factors that hinder the effectiveness of International Organisations (IOs).

• In the final sentence, it explicitly states: "Though their potential is undermined by geopolitical competition, veto powers, and resource constraints..."

• These three elements are presented as the primary hurdles that limit the capacity of IOs to fulfill their mandates.

• Why other options are incorrect:

• Option 1: "Increased cooperation" would be a facilitator, not a challenge. The passage mentions "geopolitical competition" as the obstacle.

• Option 3: The text describes IOs as "indispensable for organising multilateral actions," suggesting they are the vehicle for such interest rather than suffering from a lack of it.

• Option 4: The passage cites "resource constraints" (limited funding/manpower), which is the exact opposite of "excessive funding."

Therefore, the correct answer is 2.

Analytical Insight: Identifying "limiting factors" is a common comprehension task. In political passages, words like "undermined," "constrained," or "hindered" are your signposts to finding the challenges or weaknesses of a system.

Additional Information

• Veto Power: The legal power to unilaterally stop an official action. In the UN Security Council, this is held by the five permanent members.

• Geopolitical: Relating to politics, especially international relations, as influenced by geographical factors.

• Indispensable: Absolutely necessary; something that cannot be replaced or done without.

• Multilateral: Involving more than two nations or parties (e.g., an agreement between multiple countries).

Q10. Answer: (b) By making states accountable for their actions and encouraging norms of peaceful coexistence

The correct answer is Option 2.

Key Points

• The passage directly addresses the promotion of peace by stating that IOs "serve to enforce international law and human rights, making states accountable for their behaviour and encouraging peaceful coexistence norms."

• This highlights a dual approach: accountability (ensuring states follow laws) and norm-setting (encouraging standard behaviors for peace).

• Why other options are incorrect:

• Option 1: The text mentions "peacekeeping operations" rather than "military control," focusing on monitoring and protection

rather than absolute military rule.

• Option 3: The passage asserts that IOs provide environments where "States can communicate," which is the opposite of restricting it.

• Option 4: While IOs may use sanctions in reality, this specific passage does not mention economic sanctions or "rogue states."

Therefore, the correct answer is 2.

Analytical Insight: In competitive exams, the concept of "Norms" is vital. Norms are shared expectations of behavior. By "encouraging peaceful coexistence norms," IOs help create a global culture where negotiation is preferred over conflict.

Additional Information

• Accountability: The obligation of an individual or organization to account for its activities and accept responsibility for them.

• Coexistence: The state or condition of living in harmony despite different ideologies or interests.

• Interdependent: A situation where countries rely on each other for economic, political, or social stability.

• Multilateralism: The principle of participation by several nations in an action.

Q11. Answer: (b) Essential or absolutely necessary

The correct answer is Option 2.

Key Points

• In the passage, the word "indispensable" is used to describe International Organisations: "IOs are indispensable for organising multilateral actions..."

• The context emphasizes that despite challenges like veto powers and resource constraints, these organisations are essential or absolutely necessary for confronting complex emergencies and maintaining peace.

• Why other options are incorrect:

• Option 1 (Easily replaceable): This is an antonym. The passage calls their role "irreplaceable" in the very first sentence.

• Option 3 (Optional but useful): This diminishes the weight of the word; "indispensable" implies that without them, the system would fail.

• Option 4 (Unlikely to succeed): This refers to a lack of effectiveness, whereas "indispensable" refers to the necessity of their existence and function.

Therefore, the correct answer is 2.

Analytical Insight: The prefix 'in-' often acts as a negation. "Dispense" means to do without; "dispensable" means you can do without it. Therefore, "indispensable" means you cannot do without it.

Additional Information

• Multilateral: Involving more than two nations or parties.

• Avert: To prevent or ward off an undesirable occurrence.

• Interdependent: Mutually reliant on each other.

• Mediation: Intervention in a dispute in order to resolve it.

Q12. Answer: (c) A pregnancy

The correct answer is '3' i.e. a pregnancy.

Key Points

• The idiom "a bun in the oven" is a figurative expression used to describe pregnancy.

• It humorously refers to the idea of a baby growing inside the mother, akin to a bun baking in an oven.

• This idiom is commonly used in informal conversations.

Correct sentence: She announced she has a bun in the oven, which means she is expecting a baby..

Additional Information

• Origin of the Idiom:

• The phrase is believed to have originated in the mid-20th century and gained popularity for its playful imagery.

• It likens the process of pregnancy to baking, where the "bun" symbolizes the baby and the "oven" represents the mother's womb.

• Usage in Pop Culture:

• The idiom has been featured in movies, TV shows, and literature as a lighthearted way to announce pregnancy.

• It is often used during casual conversations or celebrations related to expecting a child.

Q13. Answer: (a) Pharmacy

The correct answer is '1' i.e. Pharmacy.

Key Points

• The question asks for a one-word substitute for "A place where you can buy medicines."

• The correct answer is Pharmacy, which refers to a store or facility where medicinal drugs are prepared, sold, or dispensed.
• The other options are incorrect:
• Supermarket: A large store selling groceries, household items, and other goods, not specifically medicines.
• Hospital: A healthcare institution providing treatment for patients, not a place for buying medicines.
• Clinic: A facility for outpatient medical care, not focused on dispensing medicines for sale.

Correct sentence: A place where you can buy medicines is called a Pharmacy.

Additional Information

• Pharmacy: Also known as a chemist or drugstore in some regions, it is a place where prescription and over-the-counter medicines are sold.
• Pharmacist: A professional who prepares, dispenses, and provides advice about medicines in a pharmacy.

Q14. Answer: (a) Pleasant

The correct answer is '1' i.e. Pleasant.

Key Points

• The word vexatious means causing annoyance, frustration, or worry.
• An antonym is a word that has the opposite meaning.
• Among the options provided:
• Option 1: Pleasant - This means enjoyable and satisfying, which is opposite to vexatious.
• Option 2: Annoying - Synonym for vexatious.
• Option 3: Troublesome - Synonym for vexatious.
• Option 4: Irritating - Synonym for vexatious.
• Hence, the most appropriate antonym is Option 1: Pleasant.

Correct sentence: The most appropriate antonym of the word vexatious is Pleasant.

Additional Information

• Synonyms: Annoying, troublesome, irritating.
• Antonyms: Pleasant, enjoyable, delightful.

Q15. Answer: (d) Repetition

The correct answer is '4' i.e. Repetition.

Key Points

• The question asks for a one-word substitute for a technique used to create narrative rhythm.
• Among the given options, Repetition is the correct choice.
• Repetition is a literary device that involves repeating words, phrases, or sentences to establish rhythm and emphasize ideas in a narrative.

Correct sentence: The technique of creating narrative rhythm is known as Repetition.

Additional Information

• Personification: A figure of speech where human qualities are given to non-human entities.
• Joke: A humorous statement or story intended to entertain.
• Story: A structured narrative describing events, characters, and ideas.
• Repetition: A literary technique where elements are repeated to create rhythm or emphasize ideas.

Q16. Answer: (a) Our team won the championship game.

The correct answer is '1' i.e. Our team won the championship game.

Key Points

• The given sentence is in the passive voice. Passive voice emphasizes the action or the object receiving the action rather than the subject performing it.
• To change a sentence from passive to active voice, identify the subject performing the action and place it at the beginning of the sentence.
• The structure of active voice is Subject + Verb + Object.
• In the sentence, "The championship game was won by our team," the subject performing the action is "our team," the verb is "won," and the object is "the championship game."

Correct sentence: Our team won the championship game.

Additional Information

• Passive Voice:

• Structure: Object + to be (correct tense) + past participle + by + subject.
• Example: The book was read by the teacher.
• Usage: Used when the focus is on the action or the object receiving the action.
• Active Voice:
• Structure: Subject + Verb + Object.
• Example: The teacher read the book.
• Usage: Used when the focus is on the subject performing the action.

Q17. Answer: (b) He will tell her that he has already finished his work.

The correct answer is '2' i.e. He will tell her that he has already finished his work.

Key Points

• In indirect speech, the tense of the verb generally changes depending on the tense of the reporting verb.
• Since the reporting verb in the sentence is in the future tense ("He will tell her"), the tense in the indirect speech remains unchanged for the present perfect tense.
• The direct speech sentence contains the present perfect tense: "I have already finished my work." In indirect speech, it remains "has already finished his work."
• Option 2 is correct because the tense and meaning align accurately with the rules of indirect speech.

Correct sentence: He will tell her that he has already finished his work.

Additional Information

• Rules for Tense Change in Indirect Speech:
• Present Perfect → Remains Present Perfect if the reporting verb is in the future tense.
• Example: "I have completed the task" → He will say that he has completed the task.
• Common Errors:
• Option 1: "Had already finished" changes the tense unnecessarily.
• Option 3: "Already finished" omits the auxiliary verb "has," making the sentence grammatically incorrect.
• Option 4: "Would have finished" incorrectly uses a conditional form not present in the original sentence.

Q18. Answer: (c) is starting a new business venture

The correct answer is '3' i.e. is starting a new business venture.

Key Points

• The subject of the sentence, "Shyamlal, the businessman and philanthropist," is singular. Therefore, the verb must agree in singular form.
• The verb "were" is incorrect because it is plural and doesn't match the singular subject.
• The correct verb form is "is starting", which agrees with the singular subject and fits the context.

Correct sentence: Shyamlal, the businessman and philanthropist, is starting a new business venture for farmers.

Additional Information

• Subject-Verb Agreement:
• Singular subjects require singular verbs, while plural subjects require plural verbs.
• Example: He is going (singular). They are going (plural).
• Verb Tense:
• The sentence is in present continuous tense, indicating an action that is happening currently.
• Structure: Subject + is/are + verb-ing.
• Example: She is reading a book.

Q19. Answer: (b) are similar to those of any viral fever

The correct answer is '2' i.e. are similar to those of any viral fever.

Key Points

• The sentence highlights a comparison between the initial symptoms of malaria and the symptoms of a viral fever. To ensure grammatical accuracy and clarity, the comparison must be correctly structured.
• The phrase "those of" is used to refer back to the symptoms mentioned earlier in the sentence, avoiding redundancy.
• The correct option, "are similar to those of any viral fever," ensures proper comparison by matching the plural subject "symptoms" with the plural verb "are."

Correct sentence: It is difficult to diagnose malaria because its first symptoms are similar to those of any viral fever.

Additional Information

• Why other options are incorrect:

• Option 1: "are similar to all fevers" - This is overly broad and incorrect, as the sentence specifically compares malaria symptoms to viral fevers, not all fevers.

• Option 3: "is similar to those of any other viral fever" - The use of "is" is incorrect as the subject "symptoms" is plural.

• Option 4: "is similar to those of any viral fevers" - The plural "fevers" is unnecessary and ungrammatical in this context.

• Key Grammar Rule: Ensure subject-verb agreement and maintain logical clarity when making comparisons.

Q20. Answer: (b) An elegant and efficient code has been written by the skilled programmer to solve the intricate problem.

The correct answer is '2' i.e. An elegant and efficient code has been written by the skilled programmer to solve the intricate problem..

Key Points

• The given sentence is in the present perfect tense ("has written").

• To convert it to passive voice, the structure of the present perfect tense changes as follows:

• Active voice: Subject + has/have + past participle + object.

• Passive voice: Object + has/have + been + past participle + by + subject.

• The subject in the active voice ("The skilled programmer") becomes the agent in the passive voice ("by the skilled programmer").

• The object in the active voice ("an elegant and efficient code") becomes the subject in the passive voice.

Correct transformation: An elegant and efficient code has been written by the skilled programmer to solve the intricate problem.

Additional Information

• Incorrect options:

• Option 1: "An elegant and efficient code was written by the skilled programmer..." uses the past tense ("was written"), which is incorrect as the original sentence is in the present perfect tense.

• Option 3: "An elegant and efficient code has been being written..." is grammatically incorrect because "has been being" is rarely used and awkward in standard English.

• Option 4: "An elegant and efficient code is written by the skilled programmer..." uses the present simple tense ("is written"), which is incorrect as the original sentence is in the present perfect tense.

Q21. Answer: (b) What had been done by them to ensure the project's success before the official launch?

The correct answer is '2' i.e. What had been done by them to ensure the project's success before the official launch?

Key Points

• The original sentence is in the active voice: What had they done to ensure the project's success before the official launch?

• In passive voice transformation, the object of the active sentence becomes the subject of the passive sentence.

• The correct form for the past perfect tense in passive voice is: had been + past participle.

• Thus, the correct transformation is: What had been done by them to ensure the project's success before the official launch?

Correct sentence: What had been done by them to ensure the project's success before the official launch?

Additional Information

• Active Voice: The subject performs the action. Example: They completed the project.

• Passive Voice: The subject receives the action. Example: The project was completed by them.

• Use the passive voice when the focus is on the action or the recipient of the action, rather than the doer.

Q22. Answer: (c) The old man said, "I have visited this small town many times in my youth."

The correct answer is '3' i.e. "The old man said, 'I have visited that small town many times in my youth.'"

Key Points

• The given sentence is in indirect speech, where the original statement has been reported rather than quoted directly.

• To convert it into direct speech, we must accurately reconstruct the speaker's original words, using appropriate pronouns and verb tenses.

• In direct speech, the verb "said" is followed by the quoted statement enclosed in quotation marks.

• The pronoun "he" in indirect speech changes to "I" in direct speech, as the old man is referring to himself.

• The verb "had visited" in indirect speech changes to "have visited" in direct speech because the reporting verb "said" is in the past tense.

Correct sentence: The old man said, "I have visited that small town many times in my youth."

Additional Information

• Direct speech: The exact words of the speaker are quoted, enclosed in quotation marks, and the tense is kept as it was originally

spoken.

• Indirect speech: The speaker's words are paraphrased or reported, often involving changes in pronouns, verb tenses, and time expressions.

Q23. Answer: (b) "Your recent performance has been impressive, but you have to now focus on the upcoming project which is a...

The correct answer is Option 2.

Key Points

• The given sentence is in indirect speech, and it needs to be converted into direct speech.

• In direct speech, the manager addresses the team directly. Therefore, "their" changes to "your", "they" changes to "you", and "he" changes to "I."

• The reported phrase "had been impressive" is restored to "has been impressive" in direct speech.

• The phrase "they had to now focus" is appropriately expressed as "you have to now focus" in the direct statement.

• Similarly, "he was confident that they would succeed" becomes "I am confident that you will succeed."

Therefore, the correct answer is Option 2.

Correct Direct Speech: "Your recent performance has been impressive, but you have to now focus on the upcoming project which is a much bigger challenge, and I am confident that you will succeed in it," the manager said to the team.

Additional Information

• Option 1: Incorrect. "Had been impressive" is changed to "was impressive," which does not accurately restore the original tense.

• Option 2: Correct. It correctly changes the pronouns and restores the reported statement to direct speech while using "have to" for the obligation expressed by "had to."

• Option 3: Incorrect. Although "must" can express obligation, the expected direct form corresponding to "had to" in this question is "have to."

• Option 4: Incorrect. It retains the third-person pronouns and the indirect-speech structure instead of converting the statement into direct speech.

Q24. Answer: (c) P, Q, R, S

The correct answer is '3' i.e. P, Q, R, S.

Key Points

• The given sentence parts describe a sequential process of refurbishing an antique table.

• Option '3' i.e., P, Q, R, S is the correct order as it logically arranges the steps in the process:

• P: Removing the old, flaking paint is the first step.

• Q: Smoothing the wood with fine sandpaper is the next step to bring out the original grain.

• R: Adding varnish and a new stain follows as the final touch for protection and aesthetics.

• S: The concluding statement summarizes the result of the refurbishment process.

Correct arrangement: P, Q, R, S.

Additional Information

• This type of question tests your ability to logically sequence ideas or events.

• Pay attention to the context and keywords in each sentence part to determine the correct chronological or logical order.

• Practice with similar questions to improve your comprehension and sequencing skills.

Q25. Answer: (d) Q, R, P, S

The correct answer is '4' i.e. Q, R, P, S.

Key Points

• The given question asks us to rearrange the sentence parts (Q, R, P, S) to form a meaningful and grammatically correct paragraph.

• Q introduces the idea of a consumer-driven society where people face an overwhelming array of options. This makes it the opening statement.

• R follows logically by introducing the term "the paradox of choice," which explains the outcome of the scenario introduced in Q.

• P elaborates on the paradox by explaining how more choices lead to anxiety and dissatisfaction.

• S concludes the paragraph by providing a broader perspective, suggesting that excessive freedom can be psychologically harmful.

Correct sequence: Q, R, P, S.

Additional Information

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• Step-by-Step Approach:

• Step 1: Identify the introductory sentence that sets the context. Q serves as the introduction as it talks about a consumer-driven society with numerous choices.

• Step 2: Find the sentence that defines or explains the phenomenon mentioned in Q. R introduces the term "the paradox of choice."

• Step 3: Look for the sentence that elaborates on the phenomenon. P explains the impact of excessive choices.

• Step 4: Conclude with a sentence that provides insight or a broader perspective. S ties the idea together by discussing the psychological effects of excess freedom.

Q26. Answer: (b) Only II follow

Conclusions:

I. Remote work always leads to decreased productivity in organizations. - Does not follow (The statement says productivity decreased only in certain departments of some organizations, not always.)

II. Companies benefit financially from remote work arrangements. - Follows (The statement clearly says companies reported reduced overhead costs (less office space and utilities), which means financial benefit.)

III. Hybrid work models are superior to purely remote or office-based work. - does not follow (The statement says research indicates hybrid models may offer the best, but it does not conclusively prove they are superior.)

Thus, only II follow.

Hence, the correct answer is "Option 2".

Q27. Answer: (c) Negotiate for a smaller stake and partial control

The situation requires a balanced and strategic decision. Shruti should consider both financial growth and maintaining control over her brand, which is built on personal touch and customer trust.

Let's check each option:

1. Accept immediately for financial gain - Not appropriate Course of Action (Accepting immediately ignores the risk of losing control over key decisions, which could harm the brand identity.)

2. Decline outright to retain autonomy - Not appropriate Course of Action (Not the best choice. While autonomy is preserved, it rejects a potentially beneficial growth opportunity without exploring alternatives.)

3. Negotiate for a smaller stake and partial control - Appropriate Course of Action (Negotiating allows Shruti to secure financial investment while maintaining significant decision-making power, protecting the brand's values and customer trust.)

4. Close her business and look for a new venture - Not appropriate Course of Action (Completely inappropriate. Her business is already successful, so shutting it down makes no logical sense.)

Hence, the correct answer is "Option 3".

Q28. Answer: (d) -350

BODMAS Rule:

Decoding the given information:

Symbol	!	?	%	^
Meaning	•	•	•	÷

Given equation: 10?5^6^12=?

Now replacing the sign from left to right using BODMAS Rule, we get:

=> 10 - 5 × 6 × 12 = ?

=> 10 - 360 = ?

=> -350 = ?

Hence, the correct answer is "Option 4".

Q29. Answer: (d) Acknowledge their feelings, explain reasons, and invite their input for future decisions

The goal is to bring the partner back into the group while maintaining teamwork and respect.

Now, let's check each option:

1. Ignore and continue without them - Not appropriate. (As, ignoring the issue may increase their feeling of exclusion and weaken team collaboration.)

2. Blame them for overreacting - Not appropriate. (As, blaming can damage trust and worsen the conflict.)

3. Replace them silently - Not appropriate. (As, this avoids communication and can harm relationships within the volunteer group.)

4. Acknowledge their feelings, explain reasons, and invite their input for future decisions - Appropriate. (As, this approach shows

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empathy, transparency, and collaboration, helping rebuild trust and encouraging them to re-engage with the group.)

Hence, the correct answer is "Option 4".

Q30. Answer: (b) 17

Given: In a queue of 45 people, Mohan is 16th from the front and Sohan is 12th from the rear.

Total people in the queue = 45

Mohan's position from the front = 16

Sohan's position from the rear = 12

So, Sohan's position from the front = 45 - 12 + 1 = 46 - 12 = 34

Now, number of people between Mohan and Sohan = 34 - 16 - 1

= 34 - 17

= 17

Thus, 17 people are standing between Mohan and Sohan.

Hence, the correct answer is "Option 2".

Q31. Answer: (a) Only I follows

Statement: Reports indicate that children in rural areas are dropping out of school due to lack of mid-day meals.

Course of Action I: Introduce a robust mid-day meal program in rural schools. - Follows. (As, this directly addresses the problem mentioned in the statement. Providing mid-day meals would encourage children to stay in school and reduce dropout rates.)

Course of Action II: Make education optional for children in rural areas. - Does not follow. (As, this does not solve the problem. Instead of addressing the cause (lack of meals), it may worsen the situation by allowing more children to leave school.)

Thus, only I follows.

Hence, the correct answer is "Option 1".

Q32. Answer: (a) M

The position and positional values or English Alphabets are:

Given: A, D, G, J, ?

The logic followed here is:

Thus, M will come next in the following series.

Hence, the correct answer is "Option 1".

Q33. Answer: (c) Applicant with strong teamwork and leadership

Given: All applicants meet technical criteria, but one also shows strong teamwork and leadership.

1. Applicant with highest test score - No (As, technical ability is already satisfied for all candidates, so this is not the best differentiator.)

2. Applicant with most degrees - No (As, more degrees do not necessarily add practical value if technical requirements are already met.)

3. Applicant with strong teamwork and leadership - Yes (As, these are additional strengths that improve collaboration, project success, and potential leadership within the team.)

4. Applicant with longest resume - No (As, a longer resume does not guarantee better performance.)

Thus, 'Applicant with strong teamwork and leadership' should be hired.

Hence, the correct answer is "Option 3".

Q34. Answer: (d) MOTION

Given Word: 'CONSTRUCTION'

Now, let's check each option one by one:

1. SUCTION → CONSTRUCTION → Can be formed.

2. COINS → CONSTRUCTION → Can be formed.

3. TION → CONSTRUCTION → Can be formed.

4. MOTION → CONSTRUCTION → Cannot be formed as 'M' is missing.

Thus, MOTION cannot be formed from the letters.

Hence, the correct answer is "Option 4".

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Q35. Answer: (b) [figure]

The correct mirror image of the given figure is:

Hence, the correct answer is "Option 2".

Q36. Answer: (b) Split the venue time and coordinate schedules

Given: During a cultural festival, two community groups claim the same venue for their performances.

1. Give it to the bigger group - Does not solves the problem (As, it is unfair to the smaller group and may create resentment.)

2. Split the venue time and coordinate schedules - It solves the problem (As, this allows both groups to perform, promotes fairness, and resolves the dispute peacefully.)

3. Ask one group to cancel - Does not solves the problem (It is unfair and may discourage participation.)

4. Hold a coin toss - Does not solves the problem (As, random decisions are not ideal for organized events and may seem unprofessional.)

Thus, 'Split the venue time and coordinate schedules' is the appropriate problem solving method that can be implemented.

Hence, the correct option is “Option 2”.

Q37. Answer: (a) Redesign route using student locations and pick optimal path

Given: A school bus route is inefficient causing delays. Logical improvement?

1. Redesign route using student locations and pick optimal path - It resolves the problem (As, this directly addresses the issue by optimizing the route, reducing delays and improving efficiency.)

2. Charge students extra - It does not resolves the problem (As, this does not solve the routing problem.)

3. Keep same route to avoid change - It does not resolves the problem (As, this keeps the inefficiency and delays unchanged.)

4. Add more buses regardless of cost - It does not resolves the problem (As, this is not a logical or cost-effective solution.)

Thus, 'Redesign route using student locations and pick optimal path' resolve the problem in statement.

Hence, the correct option is “Option 1”.

Q38. Answer: (d) VU

The position and positional values or English Alphabets are:

The logic followed here is:

TR : RT

Similarly,

UV : ?

Thus, UV is related to VU.

Hence, the correct answer is "Option 4".

Q39. Answer: (b) 771

Given: 6, 15, 51, 195, ?

The logic followed here is:

Logic: (Previous number × 4) - 9 = Next number

6

=> 6 × 4 - 9 = 24 - 9 = 15

=> 15 × 4 - 9 = 60 - 9 = 51

=> 51 × 4 - 9 = 204 - 9 = 195

=> 195 × 4 - 9 = 780 - 9 = 771

Hence, the correct answer is "Option 2".

Q40. Answer: (d) 36,64

The logic followed here is:

Logic: n, $(n + 1)^2$

1. 9, 16 → 3^2, $(3 + 1)^2 = 4^2 = 16$

2. 16, 25 → 42, (4 + 1)2 = 52 = 25

3. 25, 36 → 52, (5 + 1)2 = 62 = 36

4. 36, 64 → 62, (6 + 1)2 = 72 = 49 ≠ 64

Thus, '36,64' is the odd one out.

Hence, the correct answer is "Option 4".

Q41. Answer: (a) [figure]

The paper after unfolded will be:

Hence, the correct answer is "Option 1".

Q42. Answer: (a) [figure]

The image embedded in given figure is as shown below:

No.	Option	Question	Answer
1			Embedded
2			Not Embedded
3			Not Embedded
4			Not Embedded

Hence, the correct answer is "Option 1".

Q43. Answer: (a) 6

The logic followed here is:

In a row: (Sum of first three numbers) × 2 = Fourth number

Row 1: (7 + 6 + 3) × 2 → 16 × 2 = 32

Row 2: (9 + 5 + 8) × 2 → 22 × 2 = 44

Similarly,

Row 3: (11 + ? + 3) × 2 → (14 + ?) × 2 = 40

=> 28 + 2 × ? = 40

=> 2 × ? = 40 - 28

=> 2 × ? = 12

=> ? = 12 ÷ 2

=> ? = 6

Hence, the correct answer is "Option 1".

Q44. Answer: (c) 10

According to the given Venn diagram:

The shaded area show the total number of cows that are neither dogs nor cats.

So, total number of cows that are neither dogs nor cats = 10.

Hence, the correct answer is "Option 3".

Q45. Answer: (a) [figure]

Given: Engineer, Doctor, Lawyer

Hence, the correct answer is "Option 1".

Q46. Answer: (a) 1, 2, 3, 4, 5

The correct order of words as they would appear in the English dictionary is:

1.Archaeology

2.Archeologist

3.Archipelago

4. Architectural

5. Architecture

The correct order is '1, 2, 3, 4, 5'.

Hence, the correct answer is "Option 1".

Q47. Answer: (a) [figure]

The image that completes the pattern is:

Hence, the correct answer is "Option 1".

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Q48. Answer: (c) [figure]

The logic followed here is:

1.

→ The middle-most element Triangle in the first image shifts to the centre in the second image.

2.

→ The middle-most element Quadrilateral in the first image shifts to the centre in the second image.

3.

→ The middle-most element Rectangle in the first image shifts to the centre in the second image, but the triangle in first image is missing in second image.

4.

→ The middle-most element Triangle in the first image shifts to the centre in the second image.

Thus, option 3 image is the odd one out.

Hence, the correct answer is "Option 3".

Q49. Answer: (d) [figure]

The logic followed here is:

Element with arrow-head is shifting clockwise.

Element with semi-circle is shifting anti-clockwise.

Note: Each element is rotating by an angle of 180 degree everytime they shift their position.

Hence, the correct answer is "Option 4".

Q50. Answer: (c) FFXX

The position and positional values or English Alphabets are:

The logic followed here is:

'AWLS' is coded as 'EBPX'

'ARCS' is coded as 'EWGX'

Similarly,

Thus, 'BATS' is coded as 'FFXX'.

Hence, the correct answer is "Option 3".

Q51. Answer: (a) 3:7:9

Shortcut Trick

Investment Ratio = (Profit Ratio) ÷ (Time Ratio)

Investment Ratio = (6/14) : (8/8) : (9/7)

Investment Ratio = (3/7) : 1 : (9/7)

Multiply the entire ratio by 7 to simplify: 3 : 7 : 9

Therefore The correct answer is 3:7:9.

Alternate Method

Given:

Profit ratio of three partners = 6 : 8 : 9

Time of investment for each partner = 14 months, 8 months, and 7 months

Formula Used:

Profit = Investment × Time

=> Investment = Profit ÷ Time

Let the investments of the three partners be I1, I2, and I3 respectively.

=> I1 : I2 : I3 = (6/14) : (8/8) : (9/7)

=> I1 : I2 : I3 = (3/7) : 1 : (9/7)

To eliminate the fractions, multiply the entire ratio by the LCM of denominators (7, 1, 7), which is 7:

=> I1 : I2 : I3 = (3/7 × 7) : (1 × 7) : (9/7 × 7)

=> I1 : I2 : I3 = 3 : 7 : 9

Therefore The correct answer is 3:7:9.

Additional Information

Partnership Basic Rule

The profit earned in a business is distributed among partners in the ratio of the product of their capital and time duration (Profit = C × T).

Ratio of Capital/Investment

When the profit ratio and time ratio are given, the investment ratio is calculated as (P1/T1) : (P2/T2) : (P3/T3).

Working vs Sleeping Partner

A working partner manages the business and may receive a salary or extra profit share, while a sleeping partner only invests money.

Q52. Answer: (c) $\sec^2 x$

Shortcut Trick

Combine the Pythagorean identity terms: $\sin^2 x + \cos^2 x = 1$.

Substitute this into the expression to get $1 + \tan^2 x$.

Recognize that $1 + \tan^2 x$ is the standard identity for $\sec^2 x$.

Therefore The correct answer is $\sec^2 x$.

Alternate Method

Given: $\sin^2 x + \cos^2 x + \tan^2 x$

Formula Used:

1. $\sin^2 \theta + \cos^2 \theta = 1$

2. $1 + \tan^2 \theta = \sec^2 \theta$

=> Expression = $(\sin^2 x + \cos^2 x) + \tan^2 x$

=> Expression = $1 + \tan^2 x$

=> Expression = $\sec^2 x$

Therefore The correct answer is $\sec^2 x$.

Additional Information

Primary Pythagorean Identity

The most fundamental identity in trigonometry is $\sin^2 \theta + \cos^2 \theta = 1$, which relates the sine and cosine of any angle.

Secant-Tangent Relationship

The identity $\sec^2 \theta - \tan^2 \theta = 1$ is derived by dividing the primary identity by $\cos^2 \theta$.

Cosecant-Cotangent Relationship

Similarly, dividing the primary identity by $\sin^2 \theta$ yields the identity $1 + \cot^2 \theta = \text{cosec}^2 \theta$.

Q53. Answer: (b) 11:8

Given:

Profit to cost price ratio = 3:8

Formula Used:

Selling Price (SP) = Cost Price (CP) + Profit

Profit = (Profit to CP ratio) × CP

SP to CP ratio = SP ÷ CP

Calculation:

=> Profit = (3/8) × CP

=> SP = CP + Profit

=> SP = CP + (3/8) × CP

=> SP = (1 + 3/8) × CP

=> SP = (8/8 + 3/8) × CP

=> SP = (11/8) × CP

=> SP to CP ratio = 11:8

Therefore The correct answer is 11:8.

Q54. Answer: (b) 81

Shortcut Trick

Ratio of apples to oranges = 7 : 9

According to the question, 7 units = 63 apples.

1 unit = 63 ÷ 7 = 9

Number of oranges = 9 units = 9 × 9 = 81
Therefore The correct answer is 81.
Alternate Method
Given: Ratio of apples to oranges in a basket = 7 : 9
Given: Total number of apples = 63
=> Let the number of apples be 7x and the number of oranges be 9x.
=> Since the number of apples is 63, we can write:
=> 7x = 63
=> x = 63 ÷ 7
=> x = 9
=> Now, number of oranges = 9x
=> Number of oranges = 9 × 9 = 81
Therefore The correct answer is 81.
Additional Information
Direct Proportion
Two quantities are in direct proportion if the ratio of their values remains constant. If x prop. to y, then x1/y1 = x2/y2.
Simplification of Ratios
A ratio a : b can be simplified by dividing both terms by their Highest Common Factor (HCF). For example, 63 : 81 = (63/9) : (81/9) = 7 : 9.
Compound Ratio
The compound ratio of two ratios a : b and c : d is defined as (a × c) : (b × d).

Q55. Answer: (b) Rs. 16,000

Given:
Difference between Compound Interest (CI) and Simple Interest (SI) = Rs. 360
Time = 2 years
Rate of Interest = 15% p.a.
Formula Used:
CI − SI = P × $(r/100)^2$
Where P = Principal, r = Rate of Interest
Calculation:
=> 360 = P × $(15/100)^2$
=> 360 = P × (225/10000)
=> P = 360 ÷ (225/10000)
=> P = 360 × (10000/225)
=> P = Rs. 16,000
Therefore The correct answer is Rs. 16,000.

Q56. Answer: (b) Rs. 2,20,000

Given:
Principal = 200000
Rate of interest = 10%
Amount withdrawn after 1 year = 20000
Total time = 2 years
Formula Used:
Compound amount = Principal × (1 + Rate ÷ 100)
Calculation:
=> Amount after 1 year = 200000 × (1 + 10 ÷ 100)
=> Amount after 1 year = 200000 × 1.10
=> Amount after 1 year = 220000
=> Balance after withdrawal = 220000 − 20000
=> Balance = 200000

=> Amount after 2nd year = 200000 × (1 + 10 ÷ 100)
=> Amount after 2nd year = 200000 × 1.10
=> Amount after 2nd year = 220000
Therefore The correct answer is 220000.

Q57. Answer: (c) 37.6

Given:
Average of 50 numbers = 38
Wrongly taken numbers = 33 and 27
Correct numbers = 23 and 17
Total numbers = 50
Formula Used:
Total sum of numbers = Average × Total numbers
Corrected total sum = Original total sum - Wrong values + Correct values
Corrected average = Corrected total sum ÷ Total numbers
Calculation:
=> Total sum of numbers = 38 × 50 = 1900
=> Corrected total sum = 1900 - (33 + 27) + (23 + 17)
=> Corrected total sum = 1900 - 60 + 40
=> Corrected total sum = 1880
=> Corrected average = 1880 ÷ 50
=> Corrected average = 37.6
Therefore The correct answer is 37.6.

Q58. Answer: (b) 183

Given:
First number = 13511
Second number = 13903
Third number = 14589
Same divisor = n
Same remainder = m
Formula Used:
If three numbers leave the same remainder when divided by a number, then that divisor is the H.C.F. of the pairwise differences of the numbers.
Remainder = Number mod Divisor
Calculation:
=> 13903 − 13511 = 392
=> 14589 − 13903 = 686
=> 14589 − 13511 = 1078
=> H.C.F. of 392 and 686
=> 686 = 392 × 1 + 294
=> 392 = 294 × 1 + 98
=> 294 = 98 × 3 + 0
=> H.C.F. = 98
=> n = 98
=> m = 13511 mod 98
=> 13511 = 98 × 137 + 85
=> m = 85
=> n + m = 98 + 85
=> n + m = 183
Therefore The correct answer is 183.

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Q59. Answer: (b) Rs. 55,000

Given:

Price increases by 20% in first year

Price decreases by 10% in second year

Final price = 59400

Formula Used:

New price = Original price × (1 + Increase%) × (1 − Decrease%)

Calculation:

=> Let original price = x

=> After 20% increase = x × 1.20

=> After 10% decrease = x × 1.20 × 0.90

=> Final price = x × 1.08

=> x × 1.08 = 59400

=> x = 59400 ÷ 1.08

=> x = 55000

Therefore The correct answer is 55000.

Q60. Answer: (c) 60 km

Given:

Speed while going = 30 km/h

Speed while returning = 20 km/h

Total time = 5 hours

Formula Used:

Time = Distance ÷ Speed

Total time = Time going + Time returning

Calculation:

=> Let one-way distance = x

=> Time going = x ÷ 30

=> Time returning = x ÷ 20

=> x ÷ 30 + x ÷ 20 = 5

=> (2x + 3x) ÷ 60 = 5

=> 5x ÷ 60 = 5

=> x ÷ 12 = 5

=> x = 60

Therefore The correct answer is 60.

Q61. Answer: (c) 30 days

Shortcut Trick

If A and B together take x days and B alone takes y days, then A alone takes:

Time = (x × y) ÷ (y − x)

Time taken by A = (10 × 15) ÷ (15 − 10)

Time taken by A = 150 ÷ 5 = 30 days

Therefore The correct answer is 30 days.

Alternate Method

Given:

Time taken by A and B together = 10 days

Time taken by B alone = 15 days

Formula Used:

Total Work = LCM of individual days

Efficiency = Total Work ÷ Time Taken

Person	Days	Total Work	Efficiency

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A + B	10	30	3
B	15	2	

Calculations:
=> Total work (LCM of 10 and 15) = 30 units
=> Efficiency of A + B = 3 units/day
=> Efficiency of B = 2 units/day
=> Efficiency of A = (Efficiency of A + B) − (Efficiency of B)
=> Efficiency of A = 3 − 2 = 1 unit/day
=> Time taken by A alone = Total Work ÷ Efficiency of A
=> Time taken by A = 30 ÷ 1 = 30 days
Therefore The correct answer is 30 days.
Additional Information
Pipes and Cisterns
The concept is identical to time and work; filling pipes act like positive work, and drainage pipes (leaks) act like negative work.
Work and Wages
Wages are always distributed among workers in the direct ratio of their efficiencies or the share of work done by each.
Efficiency-Time Relation
Efficiency is inversely proportional to the time taken to complete the work (Efficiency prop. to 1 ÷ Time).

Q62. Answer: (a) 32 cm²

Given:
AB || CD
AB = 2CD
Area of Δ COD = 8
Formula Used:
In a trapezium, diagonals divide each other in the ratio of the parallel sides
Area of triangles with same altitude is proportional to their bases
Calculation:
=> AB : CD = 2 : 1
=> AO : OC = 2 : 1
=> BO : OD = 2 : 1
=> Area(Δ AOB) : Area(Δ COD) = (AB / CD)²
=> Area ratio = 2² : 1
=> Area ratio = 4 : 1
=> Area(Δ AOB) = 4 × 8
=> Area(Δ AOB) = 32
Therefore The correct answer is 32.

Q63. Answer: (b) Rs. 150

Given:
Discount offered = 10%
Selling price after discount for two books = 540
Profit after discount = 20%
Formula Used:
Selling Price = Cost Price × (1 + Profit%)
Discounted price = Marked Price × (1 − Discount%)
Calculation:
=> 540 = 120% of Cost Price
=> Cost Price = 540 × 100 ÷ 120
=> Cost Price = 450
=> 540 = 90% of Marked Price

=> Marked Price = 540 × 100 ÷ 90
=> Marked Price = 600
=> Profit without discount = 600 − 450
=> Profit = 150
Therefore The correct answer is 150.

Q64. Answer: (b) 5%

Given:
Simple interest = Principal ÷ 4
Number of years = Rate of interest
Formula Used:
Simple Interest = (Principal × Rate × Time) ÷ 100
Calculation:
=> Let Principal = P
=> Rate = r
=> Time = r
=> Simple Interest = (P × r × r) ÷ 100
=> P ÷ 4 = (P × r^2) ÷ 100
=> 1 ÷ 4 = r^2 ÷ 100
=> r^2 = 25
=> r = 5
Therefore The correct answer is 5%.

Q65. Answer: (d) 1540 cubic cm

Given:
Length of sheet = 44 cm
Height of cylinder = 10 cm
Formula Used:
Circumference of base = 2 × π × r
Volume of cylinder = π × r^2 × h
Calculation:
=> 2 × (22 ÷ 7) × r = 44
=> (44 ÷ 7) × r = 44
=> r = 7
=> Volume = (22 ÷ 7) × 7^2 × 10
=> Volume = (22 ÷ 7) × 49 × 10
=> Volume = 22 × 7 × 10
=> Volume = 1540
Therefore The correct answer is 1540.

Q66. Answer: (b) 412 + 782

Shortcut Trick
For two-digit numbers ab and cd, the property $(ab)^2 + (cd)^2 = (ba)^2 + (dc)^2$ holds true if $a^2 + c^2 = b^2 + d^2$.
In the given expression $14^2 + 87^2$: a = 1, b = 4, c = 8, d = 7.
Check the property: $1^2 + 8^2 = 1 + 64 = 65$ and $4^2 + 7^2 = 16 + 49 = 65$.
Since the sums are equal, the reversal of digits will yield the same value: 14 → 41 and 87 → 78.
Therefore The correct answer is $41^2 + 78^2$.
Alternate Method
Given:
Expression = $14^2 + 87^2$
Calculations:
=> 14^2 = 196
=> $87^2 = (90 - 3)^2$ = 8100 − 540 + 9 = 7569

=> Value = 196 + 7569 = 7765

Evaluating Option (2):

=> $41^2 + 78^2$

=> $41^2 = 1681$

=> $78^2 = (80 - 2)^2 = 6400 - 320 + 4 = 6084$

=> Value = 1681 + 6084 = 7765

=> Since both sums are equal to 7765, the expressions are identical.

Therefore The correct answer is $41^2 + 78^2$.

Additional Information

Digit Reversal Square Property

A sum of two squares equals the sum of the squares of their reversed digits only when the sum of the squares of the first digits equals the sum of the squares of the second digits.

Algebraic Identity for Squaring

Use $(a \pm b)^2 = a^2 \pm 2ab + b^2$ for quick calculation of squares near base values like 10, 50, or 100.

Numbers ending in 1

To square a number ending in 1 (like 41), use $(x+1)^2 = x^2 + 2x + 1$. For example, $41^2 = 40^2 + 2(40) + 1 = 1600 + 80 + 1 = 1681$.

Q67. Answer: (b) 5 kg

Given:

Total alloy = 40 kg

Initial Zinc percentage = 10%

Required Zinc percentage = 20%

Formula Used:

Quantity of element = Total mixture × Percentage ÷ 100

Calculation:

=> Initial Zinc = 40 × 10 ÷ 100

=> Initial Zinc = 4

=> Let Zinc added = x

=> New total mixture = 40 + x

=> Total Zinc = 4 + x

=> (4 + x)/(40 + x) = 20/100

=> (4 + x)/(40 + x) = 1/5

=> 5(4 + x) = 40 + x

=> 20 + 5x = 40 + x

=> 5x - x = 40 - 20

=> 4x = 20

=> x = 5

Therefore The correct answer is 5 kg.

Q68. Answer: (b) 938π/3 cm³

Given:

Inner radius (r1) = 12 cm

Outer radius (r2) = 13 cm

Formula Used:

Volume of a hemisphere = $(2/3)\pi r^3$

Volume of the shell = Volume of outer hemisphere - Volume of inner hemisphere

Calculation:

=> Volume of outer hemisphere = $(2/3)\pi(13)^3$

=> Volume of outer hemisphere = $(2/3)\pi \times 2197$

=> Volume of outer hemisphere = $(4394/3)\pi$

=> Volume of inner hemisphere = $(2/3)\pi(12)^3$

=> Volume of inner hemisphere = $(2/3)\pi \times 1728$

=> Volume of inner hemisphere = (3456/3)π
=> Volume of the shell = Volume of outer hemisphere - Volume of inner hemisphere
=> Volume of the shell = (4394/3)π - (3456/3)π
=> Volume of the shell = (938/3)π
Therefore The correct answer is (938/3)π.

Q69. Answer: (b) 200 liters

Given:
Initial filled part of tank = 3/5
Final filled part of tank = 7/10
Water added = 20
Formula Used:
Added water = Total capacity × (Final fraction − Initial fraction)
Calculation:
=> Increase in fraction = 7/10 - 3/5
=> Increase in fraction = 7/10 - 6/10
=> Increase in fraction = 1/10
=> 1/10 of capacity = 20
=> Capacity = 20 × 10
=> Capacity = 200
Therefore The correct answer is 200 liters.

Q70. Answer: (a) (4,5)

Given:
Coordinates of vertex A = (2, 3)
Coordinates of vertex B = (4, 5)
Coordinates of vertex C = (6, 7)
Formula Used:
Centroid (G) = ((x1 + x2 + x3) ÷ 3, (y1 + y2 + y3) ÷ 3)
Calculation:
=> x-coordinate of centroid = (2 + 4 + 6) ÷ 3
=> x-coordinate of centroid = 12 ÷ 3
=> x-coordinate of centroid = 4
=> y-coordinate of centroid = (3 + 5 + 7) ÷ 3
=> y-coordinate of centroid = 15 ÷ 3
=> y-coordinate of centroid = 5
=> Centroid (G) = (4, 5)
Therefore The correct answer is (4, 5).

Q71. Answer: (b) $a^2 : b^2$

Given:
Ratio of the perimeters of two similar triangles = a : b
Formula Used:
Ratio of areas of two similar triangles = (Ratio of their perimeters)²
Calculation:
=> Ratio of areas = $(a : b)^2$
=> Ratio of areas = $a^2 : b^2$
Therefore The correct answer is $a^2 : b^2$.

Q72. Answer: (b) 2(√7 - √5)

Given:
4/(√7 + √5)
Formula Used:

$(a+b)(a-b) = a^2 - b^2$

Calculation:

$\Rightarrow 4/(\sqrt{7} + \sqrt{5})$

$\Rightarrow 4/(\sqrt{7} + \sqrt{5}) \times (\sqrt{7} - \sqrt{5})/(\sqrt{7} - \sqrt{5})$

$\Rightarrow (4(\sqrt{7} - \sqrt{5}))/(\sqrt{7} + \sqrt{5})(\sqrt{7} - \sqrt{5})$

$\Rightarrow (4(\sqrt{7} - \sqrt{5}))/(7 - 5)$

$\Rightarrow (4(\sqrt{7} - \sqrt{5}))/2$

$\Rightarrow 2(\sqrt{7} - \sqrt{5})$

Therefore The correct answer is $2(\sqrt{7} - \sqrt{5})$.

Q73. Answer: (b) 2

Given:

$(x+y)^3+(y+z)^3+(z+x)^3-3(x+y)(y+z)(z+x)/(x^3+y^3+z^3-3xyz)$

Formula Used:

$a^3+b^3+c^3-3abc=(a+b+c)(a^2+b^2+c^2-ab-bc-ca)$

Calculation:

$\Rightarrow (x+y)^3+(y+z)^3+(z+x)^3-3(x+y)(y+z)(z+x)$

$\Rightarrow =[(x+y)+(y+z)+(z+x)]\{(x+y)^2+(y+z)^2+(z+x)^2-(x+y)(y+z)-(y+z)(z+x)-(z+x)(x+y)\}$

$\Rightarrow =2(x+y+z)\{(x+y)^2+(y+z)^2+(z+x)^2-(x+y)(y+z)-(y+z)(z+x)-(z+x)(x+y)\}$

$\Rightarrow =(2x+2y+2z)(x^2+y^2+z^2-xy-yz-zx)$

$\Rightarrow x^3+y^3+z^3-3xyz=(x+y+z)(x^2+y^2+z^2-xy-yz-zx)$

$\Rightarrow (2x+2y+2z)(x^2+y^2+z^2-xy-yz-zx)/(x+y+z)(x^2+y^2+z^2-xy-yz-zx)$

$\Rightarrow (2(x+y+z))/(x+y+z)$

$\Rightarrow 2$

Therefore The correct answer is 2.

Q74. Answer: (d) $\sin^2(x) - \cos^2(x)$

Shortcut Trick

Apply the algebraic identity $a^2 - b^2 = (a + b)(a - b)$ to the expression.

$\sin^4(x) - \cos^4(x) = (\sin^2(x) + \cos^2(x)) \times (\sin^2(x) - \cos^2(x))$.

Using the Pythagorean identity, $\sin^2(x) + \cos^2(x) = 1$.

The expression simplifies directly to $1 \times (\sin^2(x) - \cos^2(x))$, which is $\sin^2(x) - \cos2(x)$.

Therefore The correct answer is $\sin^2(x) - \cos2(x)$.

Alternate Method

Given: $\sin^4(x) - \cos^4(x)$

Formula Used: $a^2 - b^2 = (a - b)(a + b)$ and $\sin^2(x) + \cos^2(x) = 1$

$\Rightarrow \sin^4(x) - \cos^4(x) = (\sin^2(x))^2 - (\cos^2(x))^2$

$\Rightarrow (\sin^2(x) + \cos^2(x)) \times (\sin^2(x) - \cos^2(x))$

$\Rightarrow 1 \times (\sin^2(x) - \cos^2(x))$

$\Rightarrow \sin^2(x) - \cos^2(x)$

Comparing the result with the given choices, the expression is represented as:

$\Rightarrow \sin^2(x) - \cos2(x)$

Therefore The correct answer is $\sin^2(x) - \cos2(x)$.

Additional Information

Pythagorean Identities

The most fundamental identity is $\sin^2(x) + \cos^2(x) = 1$. Other variations include $1 + \tan^2(x) = \sec^2(x)$ and $1 + \cot^2(x) = \text{cosec}^2(x)$.

Double Angle Formulas

The formula for $\cos(2x)$ can be written in three ways: $\cos^2(x) - \sin^2(x)$, $2\cos^2(x) - 1$, or $1 - 2\sin^2(x)$.

Algebraic Decomposition

Higher-order powers like $a^4 - b^4$ are simplified by treating them as $(a^2)^2 - (b^2)^2$, allowing the use of the difference of squares method.

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Q75. Answer: (d) y = 2x + 1

Given:

Point 1: (1, 3)

Point 2: (4, 9)

Slope-intercept form: y = mx + c

Formula Used:

Slope (m) = (y2 - y1) ÷ (x2 - x1)

To find c: y = mx + c

Calculation:

=> Slope (m) = (9 - 3) ÷ (4 - 1)

=> Slope (m) = 6 ÷ 3

=> Slope (m) = 2

Using point (1, 3):

=> 3 = 2(1) + c

=> 3 = 2 + c

=> c = 3 - 2

=> c = 1

Equation of the line: y = 2x + 1

Therefore The correct answer is y = 2x + 1.

Q76. Answer: (a) Article 39 A

The correct answer is Article 39 A.

Key Points

• Article 39A of the Indian Constitution directs the state to ensure that the legal system promotes justice on the basis of equal opportunity and to provide free legal aid to economically weaker sections of society.

• This article was introduced by the 42nd Amendment Act of 1976 under the Directive Principles of State Policy (DPSP).

• It mandates the state to ensure that no citizen is denied access to justice due to economic or other disabilities.

• The provision emphasizes the importance of creating a fair and equitable judicial system accessible to all, irrespective of their financial status.

• The implementation of free legal aid services has been institutionalized through the Legal Services Authorities Act, 1987, which established National Legal Services Authority (NALSA) to oversee legal aid programs.

Additional Information

• Directive Principles of State Policy (DPSP):

• DPSPs are non-justiciable rights enshrined in Part IV of the Indian Constitution, aimed at guiding the state in governance and policy-making to establish a welfare state.

• These principles are inspired by the Irish Constitution and aim to promote social and economic justice.

• Though not enforceable in a court of law, they are fundamental in the governance of the country and are intended to be implemented by legislative and executive actions.

• Legal Services Authorities Act, 1987:

• This act was enacted to provide free and competent legal services to weaker sections of society and to ensure justice for all.

• It led to the creation of institutions like National Legal Services Authority (NALSA) at the national level and State Legal Services Authorities (SLSA) at the state level.

• These institutions provide free legal aid, conduct Lok Adalats, and spread legal awareness.

• Article 38:

• Article 38 directs the state to strive to promote the welfare of the people by securing and protecting a social order based on justice, social, economic, and political.

• It focuses on minimizing inequalities in income, status, facilities, and opportunities among individuals and groups.

• Other Related Articles:

• Article 45: Originally directed the state to provide free and compulsory education for children below the age of 14; later amended to focus on early childhood care and education for children below six years.

• Article 42: Directs the state to make provisions for securing just and humane conditions of work and maternity relief.

Important Points

• Role of NALSA:

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• NALSA was constituted under the Legal Services Authorities Act, 1987, and works to provide free legal services to the weaker sections of society.
• It organizes Lok Adalats to resolve disputes through alternative dispute resolution mechanisms.
• NALSA also promotes legal awareness through campaigns and programs at the grassroots level.
• Significance of Article 39A:
• It is a cornerstone of India's commitment to ensuring justice for all.
• It reflects the constitutional vision of building an inclusive judicial system that does not discriminate against marginalized groups.
• Free legal aid under this article is a step toward achieving the goal of social and economic justice.
• Global Perspective:
• Many countries have similar provisions to ensure access to justice, such as the Legal Aid, Sentencing and Punishment of Offenders Act, 2012 in the UK.
• The Universal Declaration of Human Rights (1948) also emphasizes the right to access justice without discrimination.

Q77. Answer: (c) Karpoori Thakur (Posthumous)

The correct answer is Karpoori Thakur (Posthumous).

Key Points

• Karpoori Thakur was a prominent Indian politician and social reformer who served as the Chief Minister of Bihar for two terms (1970-1971 and 1977-1979).
• He was an advocate of social justice, focusing on the upliftment of marginalized communities, particularly Scheduled Castes and Scheduled Tribes.
• Known as the Jan Nayak (People's Leader), he implemented policies that promoted reservations for backward classes in educational institutions and government jobs.
• Karpoori Thakur's contributions towards social equality and his relentless efforts for the welfare of oppressed sections of society earned him widespread respect and recognition.
• In 2024, he was honored with the Bharat Ratna posthumously, India's highest civilian award, for his exemplary contributions to Indian politics and social reform.

Additional Information

• Bharat Ratna:
• The Bharat Ratna is India's highest civilian award, instituted in 1954.
• It is awarded for exceptional service or performance of the highest order in any field of human endeavor.
• The award is presented by the President of India and does not carry any monetary grant.
• Recipients receive a peepal leaf-shaped medallion and a certificate signed by the President.
• Other Bharat Ratna recipients:
• Lata Mangeshkar (awarded in 2001, posthumously celebrated for her contributions to Indian music).
• Atal Bihari Vajpayee (awarded in 2015, celebrated for his role as India's Prime Minister and contributions to Indian politics).
• Sachin Tendulkar (awarded in 2014, recognized for his achievements in cricket).
• Karpoori Thakur's Legacy:
• He was the first leader to implement reservation policies for backward classes in Bihar.
• Thakur emphasized the importance of inclusive governance and was known for his simplicity and integrity.
• He played a significant role in promoting social justice and empowering underprivileged communities.

Important Points

• Posthumous Awards:
• Posthumous Bharat Ratna awards are given to individuals whose contributions continue to inspire generations even after their demise.
• Some notable posthumous recipients include Dr. B.R. Ambedkar (1990) and M.G. Ramachandran (1988).
• Selection Process:
• The Bharat Ratna is awarded based on recommendations made by the Prime Minister to the President.
• No formal nominations are required, and the number of annual recipients is restricted to three.

Q78. Answer: (b) 5

The correct answer is Option 2.

Key Points

• The Union Budget 2025-26 allocated Rs. 20,000 crores for an initiative to develop indigenously designed and operational Small Modular Reactors (SMRs) by 2033.

• The goal is to develop at least 5 operational SMRs, which is considered a feasible and ambitious target for the given timeline and budget allocation.

• SMRs (Small Modular Reactors) are advanced nuclear reactors that offer high flexibility, enhanced safety, and lower capital investment compared to traditional nuclear reactors.

• This initiative aligns with India's goal to enhance energy security and reduce carbon emissions by adopting cleaner and sustainable energy solutions.

• The development of SMRs will contribute to India's Make in India initiative, promoting indigenous technologies and creating opportunities for skilled employment.

Additional Information

• Small Modular Reactors (SMRs):

• Definition: SMRs are nuclear reactors that are smaller in size, typically producing up to 300 MW of electricity per reactor module.

• Features: They are designed to be scalable, allowing multiple modules to be combined to meet energy demands.

• Advantages: SMRs offer enhanced safety features, reduced costs, and shorter construction times compared to conventional nuclear reactors.

• Applications: SMRs are ideal for remote locations, industrial applications, and water desalination.

• Global SMR Development:

• Countries such as Canada, the US, Russia, and China are actively investing in SMR technologies.

• Canada's National SMR Action Plan aims to deploy SMRs for clean energy and economic development.

• The US Department of Energy (DOE) has provided funding for SMR development under the Advanced Reactor Demonstration Program.

• India's Nuclear Energy Program:

• India currently operates several nuclear power plants and aims to increase its nuclear energy capacity to 22 GW by 2031.

• Organizations like the Bhabha Atomic Research Centre (BARC) and Nuclear Power Corporation of India Limited (NPCIL) are key players in nuclear energy development.

• Make in India Initiative:

• The SMR initiative aligns with the Make in India strategy, focusing on indigenous development of advanced technologies.

• This will boost local industries, create jobs, and reduce dependency on foreign technology.

Important Points

• Budget Allocation: The allocation of Rs. 20,000 crores reflects the Indian government's commitment to advancing nuclear energy technologies.

• Energy Security: SMRs will enhance India's energy security by providing sustainable and reliable power for industrial and residential needs.

• Carbon Emission Reduction: Nuclear energy is a clean energy source, and SMRs will play a significant role in reducing India's dependence on fossil fuels and achieving climate goals.

• Global Collaboration: India may collaborate with countries already leading in SMR development to gain technical expertise and accelerate deployment.

Q79. Answer: (c) 118th

The correct answer is 118th.

Key Points

• According to the World Happiness Report 2025, published in March 2025, India ranked 118th among 147 countries.

• The report is published annually by the Wellbeing Research Centre at the University of Oxford, in partnership with Gallup, the UN Sustainable Development Solutions Network (SDSN), and the editorial board of the World Happiness Report.

• The rankings are based on people's self-assessed life evaluations and factors such as GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity, and perceptions of corruption.

• Finland retained the 1st position for the eighth consecutive year in the 2025 report.

• Hence, the correct answer is Option 3 – 118th.

Additional Information

• Top 5 Countries in the World Happiness Report 2025:

• 1. Finland

• 2. Denmark

• 3. Iceland

• 4. Sweden

• 5. Netherlands

• Purpose of the Report:

• It measures the happiness and well-being of people across countries using survey data and socio-economic indicators.

• Release:

• The report is released annually on or around the International Day of Happiness (20 March).

Important Points

• India's Rank (World Happiness Report 2025): 118th.

• Total Countries Ranked: 147.

• Top-ranked Country: Finland (8th consecutive year).

• Published By: Wellbeing Research Centre, University of Oxford, in partnership with Gallup, SDSN, and the World Happiness Report editorial board.

• Released: March 2025 (around 20 March – International Day of Happiness).

Q80. Answer: (d) Sudan

The correct answer is Sudan.

Key Points

• According to the State of the World's Children 2024, by the 2050s, over a third of the world's children will reside in just four countries: India, Nigeria, Pakistan, and China.

• This demographic trend is driven by factors such as population growth rates, fertility rates, and youthful population structures in these nations.

• India is expected to remain the most populous country globally, with a significant proportion of its population being children, due to its high fertility rates and large population base.

• Nigeria, a country with one of the highest fertility rates in the world, will experience a surge in its child population, contributing significantly to this trend.

• Pakistan and China, owing to their large populations and substantial child demographics, will also account for a significant share of the world’s children.

• Sudan, despite having a growing population, does not feature among these four countries due to its comparatively smaller population size and child demographic share in the global context.

Additional Information

• India:

• As of 2023, India surpassed China to become the most populous country globally, according to the United Nations.

• Its youthful population and improving healthcare systems contribute to its large child demographic.

• The country faces challenges like malnutrition, education accessibility, and child labor.

• Nigeria:

• With one of the highest fertility rates globally (approximately 5-7 children per woman), Nigeria’s population is rapidly growing.

• Its population is predominantly youthful, with a large percentage under the age of 18.

• Key challenges include poverty, healthcare infrastructure, and education.

• Pakistan:

• Pakistan is the 5th most populous country globally, with a significant percentage of its population being children.

• The country has a high fertility rate and a rapidly growing population.

• It faces issues like child malnutrition, low literacy rates, and healthcare access.

• China:

• Despite its declining fertility rate due to the one-child policy (now replaced by a three-child policy), China remains a key contributor to the global child population due to its sheer size.

• China’s population growth is stabilizing, but its large base ensures a significant share of the global child demographic.

• Sudan:

• Sudan has a growing population, but its overall population size is smaller compared to India, Nigeria, Pakistan, and China.

• It faces numerous challenges, including conflicts, poverty, and healthcare accessibility, which impact its demographic growth.

• As of now, Sudan does not feature among the top contributors to the global child population by 2050.

Important Points

• According to the UNICEF, by 2050, sub-Saharan Africa will host more than half of the world’s children due to its high fertility rates.

• Countries with high population growth rates face challenges in ensuring healthcare, education, and nutrition for their child population.

• Population forecasts highlight the need for global cooperation to address issues like child mortality, access to education, and

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poverty eradication.

• Programs such as the Sustainable Development Goals (SDGs) aim to address these pressing global issues by 2030.

Q81. Answer: (c) Diu

The correct answer is Diu.

Key Points

• Diu became India's first fully solar-powered district in May 2025, showcasing the country's commitment to renewable energy initiatives.

• This achievement is part of the Government of India's push towards renewable energy, aiming to reduce dependence on conventional fossil fuels and mitigate climate change.

• With the installation of 13 MW solar power plants (both ground-mounted and rooftop), Diu successfully meets its daily energy needs through solar power.

• The initiative has significantly reduced the district's reliance on electricity supplied from the Gujarat grid, thus lowering electricity costs and transmission losses.

• Diu's efforts have also contributed to achieving the national renewable energy targets, aligning with India's commitment under the Paris Agreement.

Additional Information

• About Diu:

• Diu is a coastal district in the Union Territory of Daman and Diu, situated in western India.

• It is known for its rich cultural heritage, historic forts, scenic beaches, and now, its focus on sustainable energy.

• India's Renewable Energy Goals:

• India has set an ambitious target of achieving 500 GW of renewable energy capacity by 2030.

• The country aims to source 50% of its energy requirements from renewable sources under its National Solar Mission.

• Importance of Solar Power:

• Solar energy is a clean, sustainable, and abundant source of power, reducing greenhouse gas emissions and combating global warming.

• It helps in energy security by reducing dependence on imported fossil fuels.

• Other Solar-Powered Success Stories in India:

• Cochin International Airport: The world's first fully solar-powered airport, located in Kerala, India.

• Charanka Solar Park: A large-scale solar park in Gujarat, contributing significantly to the state's renewable energy output.

Important Points

• Benefits of Solar Energy Projects:

• Reduction in carbon footprint, aligning with environmental sustainability goals.

• Creation of local job opportunities in installation, maintenance, and operations of solar plants.

• Improvement in energy independence and reduction in transmission losses.

• Challenges in Solar Adoption:

• High initial installation costs remain a barrier for large-scale adoption in some areas.

• Issues like land acquisition and availability of skilled manpower can delay project implementation.

• Dependence on weather conditions affects the consistency of solar energy generation.

Q82. Answer: (d) Jaipur-Atrauli Gharana

The correct answer is Jaipur-Atrauli Gharana.

Key Points

• Ashwini Bhide Deshpande is a renowned Hindustani classical vocalist belonging to the Jaipur-Atrauli Gharana.

• The Jaipur-Atrauli Gharana is one of the prominent gharanas (musical lineages) of Hindustani classical music, known for its intricate raga development and a systematic approach to compositions.

• She has been trained under the guidance of her mother, Manik Bhide, and has further honed her skills in the Jaipur-Atrauli style under the tutelage of Pandit Narayanrao Datar and Pandit Ratnakar Pai.

• The hallmark of the Jaipur-Atrauli Gharana is its unique repertoire of complex ragas, including rare ragas and unconventional combinations.

• Ashwini Bhide Deshpande is particularly celebrated for her mastery of such rare ragas and her ability to combine technical precision with emotional depth in her performances.

• Her contributions to Hindustani classical music have earned her numerous accolades and recognition globally.

Additional Information

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• Jaipur-Atrauli Gharana:

• The gharana was founded by Alladiya Khan in the late 19th century and is named after the cities of Jaipur and Atrauli where the gharana flourished.

• It is known for its focus on melodic structure, with a preference for intricate and slow elaboration of ragas.

• The gharana emphasizes rare and complex ragas, such as Basanti Kedar, Sampoorna Malkauns, and others, which are seldom heard in other gharanas.

• Its compositions often feature layakari (rhythmic play) and intricate taans (fast-paced melodic patterns).

• Key exponents of this gharana include Kesarbai Kerkar, Mogubai Kurdikar, Kishori Amonkar, and now Ashwini Bhide Deshpande.

• Other Prominent Gharanas:

• Banaras Gharana: Known for its thumri and semi-classical styles, this gharana focuses on expressive and emotive renditions.

• Patiala Gharana: Famous for its bold and intricate taans, this gharana is associated with artists like Bade Ghulam Ali Khan.

• Kirana Gharana: Known for its emphasis on melody and note perfection, this gharana is associated with artists like Bhimsen Joshi and Abdul Karim Khan.

• Hindustani Classical Music:

• This is one of the two main traditions of Indian classical music, the other being Carnatic music.

• It originated in North India and is deeply rooted in Vedic traditions and ancient musical texts like the Natya Shastra.

• It is based on the concept of ragas (melodic frameworks) and talas (rhythmic cycles).

• Renowned exponents include Ravi Shankar, Zakir Hussain, and Kishori Amonkar.

Important Points

• Gharana System:

• The gharana system is a lineage-based approach to teaching and performing Indian classical music.

• Each gharana has its distinct style and repertoire, passed down from teacher to student.

• It serves as a way to preserve and continue the rich traditions of Indian classical music.

• Ashwini Bhide Deshpande's Contributions:

• She has authored books on music and written compositions in various ragas.

• Her performances emphasize both traditional purity and contemporary relevance.

Q83. Answer: (a) Amitav Ghosh

The correct answer is Amitav Ghosh.

Key Points

• Amitav Ghosh is the author of the book "In an Antique Land," which was published in 1992.

• The book is a blend of historical narrative and ethnographic study, combining the genres of fiction and non-fiction.

• "In an Antique Land" explores themes such as cultural exchanges, history, identity, and migration.

• It is set against the backdrop of Egypt and India, focusing on the medieval trade network between these two regions.

• Amitav Ghosh is an acclaimed author of several other novels, including "The Shadow Lines" and "The Glass Palace," which also delve into themes of history and identity.

Additional Information

• Amitav Ghosh:

• Amitav Ghosh was born on 11 July 1956 in Calcutta, India.

• He is a recipient of several prestigious awards, including the Padma Shri in 2007 and the Jnanpith Award in 2018.

• Ghosh is renowned for his ability to weave historical events into compelling narratives, making him one of the leading authors in the genre of historical fiction.

• In an Antique Land:

• The book is a mix of historical research and personal narrative, offering a unique perspective on cross-cultural connections.

• It is based on the author’s doctoral research at Oxford University and focuses on a 12th-century Jewish merchant and his Indian slave.

• The book draws on the Cairo Geniza manuscripts, a treasure trove of historical documents preserved in Cairo's Ben Ezra Synagogue.

• Other Works by Amitav Ghosh:

• The Circle of Reason (1986): Ghosh’s debut novel, which won the Prix Médicis étranger.

• The Shadow Lines (1988): A novel exploring the partition of India and its impact on families.

• The Ibis Trilogy: A historical fiction series including "Sea of Poppies" (2008), "River of Smoke" (2011), and "Flood of Fire" (2015),

centered around the Opium Wars.

• Neel Mukherjee:

• Author of novels like "The Lives of Others" (2014), which was shortlisted for the Man Booker Prize.

• His works primarily delve into family dynamics and social issues.

• Manu Joseph:

• Known for his novel "Serious Men" (2010), which won the PEN/Open Book Award.

• He frequently writes about Indian society and politics.

• Siddharth Dhanvant Shanghvi:

• Author of "The Last Song of Dusk" (2004), which won multiple awards, including the Betty Trask Award.

• His works often explore themes like love, loss, and identity.

Q84. Answer: (b) Vinita Dawra Nangia

The correct answer is Vinita Dawra Nangia.

Key Points

• Vinita Dawra Nangia is the author of the book "Love Is Always Right and Other Musings", a collection of writings exploring life, love, relationships, and human emotions.

• She is known for her work as a journalist, columnist, and writer with deep insights into human behavior and societal issues.

• The book includes a compilation of her columns published in leading newspapers, reflecting her thoughts and musings on various aspects of life.

• Vinita Dawra Nangia is associated with publications like The Times of India, where she has contributed extensively to lifestyle and relationship columns.

• The book serves as a guide to understanding complex human emotions and offers profound wisdom on personal growth and introspection.

Additional Information

• About Vinita Dawra Nangia:

• She is a senior journalist and an Executive Editor with The Times of India.

• Her columns, such as "O-Zone", have been widely appreciated for addressing lifestyle, relationships, and self-help topics.

• She has authored several books that focus on personal development, relationships, and emotional well-being.

• Vinita Dawra Nangia is also known for her participation in literary festivals and events, contributing to discussions on creativity and writing.

• Other Prominent Books:

• She has written other notable works that delve into human emotions and societal dynamics.

• Her writings often aim to inspire readers to embrace positivity and personal growth.

• Characteristics of Her Writing Style:

• Her writings are characterized by clarity, depth, and emotional resonance.

• She uses her journalistic experience to effectively communicate complex ideas in a relatable manner.

• Her works often focus on real-life situations and the intricacies of human relationships.

• Importance of the Book:

• "Love Is Always Right and Other Musings" provides readers with insights into life lessons and offers tools for navigating personal challenges.

• The book has been appreciated for its ability to connect with readers across various demographics.

Important Points

• Other Authors Mentioned:

• Ravinder Singh: Known for his romantic novels like "I Too Had a Love Story" and "Can Love Happen Twice?".

• Ravi Subramanian: Famous for his thrillers based on banking and finance, such as "If God Was a Banker".

• Novoneel Chakraborty: Recognized for his psychological thrillers, including "The Forever Series" and "Whispered Lies".

• Genre of the Book:

• "Love Is Always Right and Other Musings" falls under the category of self-help and lifestyle literature.

• The book emphasizes emotional intelligence, personal growth, and the power of positivity.

Q85. Answer: (a) Suwa Dance

The correct answer is Suwa Dance.

Key Points

• Suwa Dance is a traditional folk dance of Chhattisgarh, primarily performed by women during the Diwali festival.
• It is popularly known as the "Parrot Dance" because the dancers hold clay parrots in their hands while performing.
• Suwa Dance is a symbol of happiness and is closely associated with the rural and tribal communities of Chhattisgarh.
• This dance celebrates nature, joy, and harvest, showcasing gratitude towards the environment and expressing festivity.
• The performers form a circle, singing songs and dancing rhythmically to the beats of traditional musical instruments like dholak and mandar.
• The dance is deeply rooted in the culture and traditions of Chhattisgarh, demonstrating the artistic expressions of the tribal groups.

Additional Information

• Kolatam Dance:
• It is a traditional folk dance from Andhra Pradesh.
• Kolatam involves rhythmic stick movements and group formations, often performed during festivals.
• It is a social and devotional dance form, reflecting the cultural heritage of Andhra Pradesh.
• Lambadi Dance:
• Lambadi is a folk dance of Telangana and Andhra Pradesh, primarily performed by the Banjaras or tribal communities.
• It showcases vibrant costumes with mirrors and beads, and performers sing songs about daily life, nature, and festivities.
• This dance form reflects the nomadic lifestyle of the Banjaras.
• Aoling Monyu Dance:
• Aoling Monyu is a traditional dance of the Konyak tribe in Nagaland.
• It is performed during the Aoling festival, which marks the arrival of spring and the beginning of the new year.
• The dance is accompanied by chants and songs, showcasing tribal rituals and celebrations of the harvest season.
• Chhattisgarh Folk Dances:
• Besides Suwa Dance, other notable folk dances of Chhattisgarh include Panthi Dance, Raut Nacha, and Karma Dance.
• These dances are integral to the tribal culture and showcase the traditions, festivals, and lifestyle of the region.

Important Points

• Tribal Communities:
• Chhattisgarh is known for its rich tribal heritage, with a significant population of Gonds, Baigas, and Oraons.
• Folk dances like Suwa Dance highlight the cultural expressions of these communities.
• Festivals of Chhattisgarh:
• Major festivals include Diwali, Navakhai, and Bastar Dussehra, which feature traditional dances and rituals.
• These festivals reflect the socio-religious significance and vibrant culture of the state.
• Significance of Folk Dances:
• Folk dances are a medium to preserve cultural identity, traditions, and heritage.
• They often involve storytelling, connecting the performers to their roots and environment.

Q86. Answer: (a) National

The correct answer is National.

Key Points

• INCOSPAR stands for Indian National Committee for Space Research. The term "National" highlights the scope of the organization being centered on India's space research initiatives.
• INCOSPAR was established in 1962 under the leadership of Dr. Vikram Sarabhai, the father of the Indian space program.
• The inclusion of "National" signifies the committee's role in coordinating space research activities at a national level, ensuring development and collaboration across various scientific and technological domains within India.
• INCOSPAR later evolved into the Indian Space Research Organisation (ISRO), which is now India's premier space agency responsible for all space exploration and satellite programs.
• The committee was pivotal in enabling India to embark on its journey in space exploration, leading to the establishment of facilities such as the Thumba Equatorial Rocket Launching Station (TERLS) in Kerala.

Additional Information

• Indian Space Research Organisation (ISRO):
• ISRO was founded in 1969, succeeding INCOSPAR, and has grown into one of the leading space agencies globally.
• Its notable missions include Chandrayaan (lunar exploration), Mangalyaan (Mars Orbiter Mission), and the recent Gaganyaan human spaceflight program.
• ISRO's headquarters is located in Bengaluru, Karnataka.

• It operates several launch sites, including the Satish Dhawan Space Centre in Sriharikota.
• Vikram Sarabhai:
• Dr. Vikram Sarabhai is regarded as the father of the Indian space program.
• He played a crucial role in establishing INCOSPAR and later ISRO.
• He emphasized the importance of utilizing space technology for societal and developmental purposes in India.
• Thumba Equatorial Rocket Launching Station (TERLS):
• TERLS was established in 1963 near Thiruvananthapuram, Kerala.
• It was chosen due to its proximity to the geomagnetic equator, making it ideal for launching sounding rockets.
• The first rocket launched from TERLS was a Nike-Apache rocket in November 1963.
• Evolution of India's Space Program:
• India's space program has transitioned from launching small research rockets to undertaking complex missions like interplanetary exploration and developing indigenous satellite systems.
• ISRO's achievements include the development of the Polar Satellite Launch Vehicle (PSLV) and the Geosynchronous Satellite Launch Vehicle (GSLV).

Important Points

• INCOSPAR's Role: INCOSPAR was instrumental in laying the foundation for India's ambitious space program, focusing on research, development, and capacity building.
• Space Research in India: India has made remarkable advancements in space technology, contributing to areas like communication, navigation, remote sensing, and defense.
• Global Collaboration: ISRO collaborates with international agencies like NASA, ESA, and Roscosmos for knowledge sharing and joint missions.
• Societal Benefits: India's space research has significantly impacted fields like education, disaster management, agriculture, and healthcare, showcasing the practical applications of space technology.

Q87. Answer: (d) 45 kg

The correct answer is Option 4.

Key Points

• The weight of an object (W) is the force exerted on it due to gravity and is calculated using the formula: W = m × g, where:
• W is the weight of the object in newtons (N).
• m is the mass of the object in kilograms (kg).
• g is the acceleration due to gravity, which is approximately 9.8 m/s² on Earth.
• In this case, the weight of the object is given as 441 N, and the acceleration due to gravity is 9.8 m/s².
• The mass of the object can be calculated by rearranging the formula for weight: m = W / g.
• Substituting the values:
• m = 441 N / 9.8 m/s²
• m = 45 kg
• Thus, the mass of the object is 45 kg.

Additional Information

• Weight and Mass:
• Weight is a force and is measured in newtons (N). It depends on the mass of the object and the gravitational force acting on it.
• Mass is the amount of matter in an object and is measured in kilograms (kg). It is constant and does not change with location.
• Acceleration due to gravity (g):
• The standard value of g on Earth's surface is approximately 9.8 m/s².
• The value of g can vary slightly depending on altitude, latitude, and the local geological structure.
• Units of Measurement:
• Weight: Measured in newtons (N), derived from the SI unit of force.
• Mass: Measured in kilograms (kg), the SI unit of mass.
• Common Misconceptions:
• Weight and mass are often confused. Weight changes with gravity, but mass remains constant.
• An object weighing 441 N on Earth will have the same mass (45 kg) on the Moon, but its weight will be different due to the Moon's lower gravity.

Important Points

• Practical Applications:

• Understanding the relationship between weight and mass is crucial in fields like physics, engineering, and space exploration.

• It helps in designing structures, vehicles, and devices that need to operate under different gravitational conditions.

• Real-life Examples:

• A person with a mass of 60 kg will weigh approximately 588 N (60 × 9.8) on Earth.

• On the Moon, where gravity is about 1/6th of Earth's, the same person would weigh around 98 N, but their mass would still be 60 kg.

Q88. Answer: (a) Saturn

The correct answer is Saturn.

Key Points

• Saturn's rings are disappearing: NASA's research has revealed that Saturn's iconic rings are eroding at an unexpectedly fast rate due to a phenomenon called "ring rain," where particles from the rings are pulled into Saturn's atmosphere under gravity.

• Worst-case scenario rate: Scientists estimate that the rings could completely vanish within the next 100 million years, based on current erosion rates. This is considered the worst-case scenario for the longevity of Saturn's rings.

• Composed of ice and rock: Saturn's rings are primarily composed of ice particles mixed with smaller amounts of rocky debris. These particles interact with Saturn's magnetosphere and atmospheric conditions, accelerating their depletion.

• Cassini spacecraft observations: NASA's Cassini mission, which orbited Saturn from 2004 to 2017, provided crucial data about the rings. It confirmed the presence of "ring rain" and measured the rate at which particles were falling into Saturn's atmosphere.

• Impact of gravitational forces: Saturn's gravity and its magnetic field are key factors contributing to the erosion of the rings. The particles are continuously bombarded by micrometeoroids and ultraviolet light, which breaks them apart and causes them to spiral into Saturn.

Additional Information

• Formation of Saturn's rings: Saturn's rings are believed to have formed relatively recently in cosmic terms, possibly within the last 100 million years. They may have originated from the remnants of a destroyed moon or comet.

• Structure of the rings: The rings are divided into several segments, primarily labeled as A, B, C, and D rings. The A and B rings are the most prominent and dense, while the others are fainter.

• Comparison with other planets: While other planets like Jupiter, Uranus, and Neptune also have rings, Saturn's rings are the most massive and visible. The rings of the other planets are much thinner and composed of darker materials.

• Scientific significance: Saturn’s rings provide a unique opportunity to study planetary formation and dynamics. They help scientists understand the interactions between planetary bodies and their surroundings in space.

• Role of the Cassini mission: The Cassini spacecraft significantly advanced our understanding of Saturn's rings. It discovered details about their composition, structure, and the processes driving their erosion.

Important Points

• Timeline for disappearance: Scientists estimate that Saturn’s rings will last for another 100 million years. However, this timeline depends on factors like the intensity of "ring rain" and external impacts.

• Energy and magnetosphere: Saturn’s magnetosphere plays a crucial role in the interaction between the rings and the planet’s atmosphere. Charged particles are influenced by the magnetic field, accelerating their descent.

• Observation technologies: Advanced telescopes and spacecraft missions, such as Cassini and the Hubble Space Telescope, continue to provide valuable insights into the dynamics of Saturn's rings.

• Future missions: NASA and other space agencies may plan future missions to study Saturn and its rings more closely, especially to monitor the rate of erosion and understand its implications for planetary systems.

Q89. Answer: (d) Malwa

The correct answer is Malwa.

Key Points

• Sawai Raja Jai Singh of Amer, a renowned ruler from the Kachwaha dynasty, was appointed the governor of Malwa around 1713 by the Mughal emperor Farrukhsiyar.

• The region of Malwa was strategically important due to its location in central India, serving as a key route for trade and administrative control.

• During his governorship, Jai Singh focused on administrative reforms, revenue collection, and maintaining law and order in the province.

• He was also known for his contributions to architecture and astronomy, including the establishment of observatories (Jantar Mantars) in several cities.

• Jai Singh's governance in Malwa was a reflection of his administrative acumen and his ability to manage diverse regions under Mughal rule.

Additional Information

• Malwa Region:

• Malwa is a historical region in central India, covering parts of present-day Madhya Pradesh and Rajasthan.

• It has been an important cultural, trade, and administrative center since ancient times, serving as a hub for rulers like the Guptas, Paramaras, and later the Mughals.

• Sawai Raja Jai Singh:

• Born in 1688, Jai Singh II was a ruler of the Amer kingdom (later known as Jaipur).

• He is most famous for his contributions to astronomy and the construction of observatories (Jantar Mantars) in cities like Jaipur, Delhi, Ujjain, and Varanasi.

• He was a trusted ally of the Mughal emperors, and his administrative skills earned him the governorship of regions like Malwa.

• Other Regions Mentioned:

• Bengal: A crucial province in eastern India, known for its wealth and trade, but not governed by Jai Singh.

• Lahore: A prominent city in Punjab, important during the Mughal era, but Jai Singh did not govern this region.

• Agra: A major Mughal administrative center and the site of the famous Taj Mahal, but it was not under Jai Singh's governorship.

• Jantar Mantar Observatories:

• Jai Singh II constructed these observatories to advance astronomical studies and improve calendar-making.

• The observatories are examples of Mughal-era scientific advancements and architectural brilliance.

Important Points

• Administrative Role: Jai Singh II's appointment as governor of Malwa showcases the Mughal strategy of delegating key provinces to trusted regional rulers to ensure efficient administration and loyalty.

• Astronomy and Architecture: Jai Singh's legacy includes his advancements in science and architecture, marking him as an innovative thinker of his time.

• Historical Impact: His governance and contributions to Malwa had long-lasting effects on the region's development and its integration into the Mughal empire.

Q90. Answer: (b) Amount comes from sale of shares are part of capital receipts

The correct answer is Option 2: Amount comes from the sale of shares are part of capital receipts..

Key Points

• Sale of government assets like PSU shares is categorized under capital receipts because it involves the realization of capital assets, such as equity, by the government.

• The funds raised through the sale of shares in Public Sector Units (PSUs) are non-recurring in nature and do not constitute a regular source of income for the government.

• The amount received from such sales is used to reduce the fiscal deficit or fund developmental activities, rather than being treated as revenue receipts.

• Revenue receipts include recurring income such as taxes and duties, whereas proceeds from disinvestment represent a capital inflow.

• The sale of government shares in PSUs does not create liability for the government; instead, it reduces its ownership in these entities while generating funds.

Additional Information

• Capital Receipts:

• Capital receipts are those receipts that result in either an increase in liabilities or a reduction in assets of the government.

• Examples include loans raised by the government, disinvestment proceeds, borrowings from external sources, and recovery of loans.

• They are used to finance capital expenditure or manage fiscal deficits.

• Revenue Receipts:

• Revenue receipts are government receipts that do not create liabilities or reduce assets.

• They consist of tax revenues (income tax, GST, etc.) and non-tax revenues (interest, dividends, and fees).

• These are used to meet the recurring expenses of the government, such as salaries, subsidies, and maintenance costs.

• Disinvestment:

• Disinvestment refers to the sale or liquidation of government-owned assets or shares in PSUs.

• The primary objectives of disinvestment are to reduce the fiscal burden, improve public finances, and enhance operational efficiency in PSUs.

• For example, the government's disinvestment in companies like Air India and BPCL has been part of its fiscal strategy.

• Fiscal Deficit:

• Fiscal deficit is the difference between the government's total expenditure and total revenue (excluding borrowings).

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• Proceeds from disinvestment are often utilized to bridge the fiscal deficit and reduce the government's reliance on borrowing.

Important Points

• Statement 1: "It creates liability for the government" is incorrect. The sale of assets does not create liability; instead, it reduces ownership in PSUs.

• Statement 2: "Amount comes from the sale of shares are part of capital receipts" is correct. Such inflows are capital receipts as they affect the capital structure of the government.

• Statement 3: "Amount comes from the sale of shares are part of revenue receipts" is incorrect. Revenue receipts involve recurring income, unlike disinvestment proceeds.

• Statement 4: "It does not reduce the total assets of the government" is incorrect. The sale of shares reduces the government's shareholding, thereby reducing its assets.

Q91. Answer: (d) 1991

The correct answer is 1991.

Key Points

• The Industrial Policy of 1991 marked a significant economic reform in India aimed at liberalizing the Indian economy and integrating it into the global market.

• This policy introduced measures such as abolition of industrial licensing for most industries, reducing the role of the public sector, and encouraging private investment.

• To boost foreign direct investment (FDI), the government established the Foreign Investment Promotion Board (FIPB). The FIPB was a special body created to facilitate and attract foreign investments into India.

• The primary function of FIPB was to evaluate and approve proposals for FDI that did not fall under the automatic route and required government approval.

• The Industrial Policy of 1991 played a pivotal role in transforming India's economy from a protectionist model to a more market-oriented and globally connected economy.

Additional Information

• Industrial Policy of 1991:

• The policy was introduced by the then Finance Minister Dr. Manmohan Singh under the leadership of Prime Minister P. V. Narasimha Rao.

• It aimed to reduce the bureaucratic control over industries and boost private sector participation in industrial development.

• The policy also emphasized globalization, privatization, and liberalization to enhance India's economic growth.

• It allowed foreign equity participation up to a certain percentage in various sectors and permitted FDI in key industries.

• Foreign Investment Promotion Board (FIPB):

• The FIPB was established under the Ministry of Finance to promote foreign investments in India.

• It acted as a single-window clearance system for FDI proposals requiring approval.

• The FIPB was abolished in 2017 as part of the government's effort to simplify the FDI process, and its functions were transferred to concerned ministries and departments.

• Features of Industrial Policy 1991:

• Delicensing: Most industries were exempted from licensing except for a few sectors like defense and hazardous chemicals.

• Disinvestment: It reduced the role of the public sector by allowing privatization of public enterprises.

• Trade Liberalization: The policy removed restrictions on imports and exports, making the Indian economy more open to global markets.

• Technology Transfer: It encouraged the adoption of advanced technologies and collaboration with foreign firms.

• Impact of 1991 Reforms:

• The policy led to a higher GDP growth rate, improved infrastructure, and increased employment opportunities.

• It boosted foreign exchange reserves and reduced India's dependency on external borrowings.

• The private sector emerged as a key player in driving economic growth and innovation.

Important Points

• Historical Context: Prior to 1991, the Indian economy operated under a protectionist regime characterized by heavy state control and limited private sector involvement.

• The economic crisis of 1991, marked by low foreign exchange reserves and a balance of payments deficit, necessitated these reforms.

• The World Bank and International Monetary Fund (IMF) provided financial assistance on the condition that India would liberalize its economy.

• The 1991 policy reforms became a turning point in India's economic history, paving the way for sustained economic growth and development.

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Q92. Answer: (a) June 1858

The correct answer is Jun 1858.

Key Points

• Rani Lakshmibai, the Queen of Jhansi, was one of the most prominent figures in the Indian Rebellion of 1857, which is also referred to as the First War of Indian Independence.

• She fought valiantly against the British forces but was ultimately defeated and killed on 18 June 1858 during the battle at Gwalior.

• Her death occurred when she attempted to resist the British forces led by General Hugh Rose. Rani Lakshmibai is remembered for her bravery and patriotism.

• The year 1858 marks the end of the Indian Rebellion, with the British consolidating their power after her demise.

• Her life and sacrifice have inspired generations and continue to be celebrated in Indian history as a symbol of resistance against colonial rule.

Additional Information

• Background of Rani Lakshmibai:

• Born on 19 November 1828 in Varanasi, Rani Lakshmibai was named Manikarnika Tambe at birth.

• She was married to the Maharaja of Jhansi, Raja Gangadhar Rao, and became the queen of Jhansi.

• After the death of her husband, the British attempted to annex Jhansi under the Doctrine of Lapse, which she vehemently opposed.

• The Indian Rebellion of 1857:

• The rebellion was triggered by various factors, including political annexation policies like the Doctrine of Lapse, economic exploitation, and disrespect toward Indian traditions.

• Rani Lakshmibai played a pivotal role in defending Jhansi and also joined forces with other leaders like Tatya Tope and Nana Sahib.

• She led an army of both men and women and displayed exceptional leadership in battles against the British forces.

• The Battle of Gwalior:

• In her final stand, Rani Lakshmibai fought fiercely against General Hugh Rose's forces in Gwalior.

• Despite being heavily outnumbered, she showed remarkable courage and refused to surrender.

• She dressed as a man to fight on the battlefield and was killed in combat on 18 June 1858.

• Legacy:

• Rani Lakshmibai is hailed as a national hero and a symbol of resistance against British colonial rule.

• Her contribution is celebrated in literature, films, and history textbooks across India.

• The famous poem "Khub Ladi Mardani Woh Toh Jhansi Wali Rani Thi" by Subhadra Kumari Chauhan immortalizes her bravery.

Important Points

• Doctrine of Lapse:

• Introduced by Governor-General Lord Dalhousie, the Doctrine of Lapse allowed the British to annex Indian states if the ruler died without a male heir.

• This policy was one of the primary reasons for the resentment against British rule, especially among the Indian royalty.

• Rani Lakshmibai's Role:

• She remains a powerful symbol of women's empowerment and resistance against oppression.

• Her leadership in the First War of Independence paved the way for future revolutionary movements in India.

• Impact of the Rebellion:

• The rebellion of 1857 led to the end of the rule of the East India Company, and India came directly under the rule of the British Crown in 1858.

• It also marked the beginning of organized resistance against colonial rule, which culminated in India's independence in 1947.

Q93. Answer: (a) 16

The correct answer is 16 per cent CENVAT.

Key Points

• The excise duty structure was rationalized in the financial year 2001-02 to a single rate of 16 per cent CENVAT, simplifying the previous complex multi-rate system.

• CENVAT (Central Value Added Tax) replaced the traditional excise duty structure to ensure uniform taxation and reduce cascading effects on goods and services.

• This reform aimed to bring transparency, enhance compliance, and create a simplified taxation regime for manufacturers and producers in India.

• The single rate of 16 per cent CENVAT facilitated easier calculation and administration of excise duties, benefiting industries and reducing bureaucratic hurdles.

• This rationalization was also part of the broader efforts to modernize India's taxation system and align it with global practices.

Additional Information

• Excise Duty:

• Excise duty is a tax levied on the manufacture of goods within the country, and it is collected by the government from manufacturers or producers.

• It is an indirect tax, meaning the burden is ultimately passed on to the consumer.

• In India, excise duties are governed by the Central Excise Act, 1944.

• Objectives of CENVAT:

• CENVAT was introduced to minimize the cascading effect of taxes on products and services.

• It promotes the concept of value addition taxation, where tax is applied only to the value added at each stage of production or distribution.

• The system ensures better input credit utilization, allowing manufacturers to claim tax credits on inputs used for production.

• Reforms in Taxation:

• The rationalization of excise duty in 2001-02 was part of broader reforms to modernize India's taxation system.

• Other significant reforms include the introduction of VAT (Value Added Tax) and later, the Goods and Services Tax (GST) in 2017, which replaced multiple indirect taxes.

• These reforms aimed to create a unified and streamlined tax structure for goods and services.

• Impact of Excise Duty Rationalization:

• The single rate of 16 per cent CENVAT reduced administrative complexities for businesses.

• It encouraged compliance and helped manufacturers focus on their operations rather than navigating complex tax structures.

• It also improved government revenue collection by creating a more efficient taxation system.

Important Points

• Tax Credit:

• Under the CENVAT Credit Rules, manufacturers can claim tax credits for excise duties paid on inputs or raw materials used in production.

• This system prevents the cascading effect of taxes and promotes efficiency in the taxation process.

• Predecessors to GST:

• Before the introduction of GST, taxes like CENVAT, VAT, and service tax formed the backbone of India's indirect taxation system.

• GST consolidated these taxes into a single system, further simplifying the taxation process.

• Global Practices:

• The rationalization of excise duties aligns with international practices of simplifying indirect taxation.

• Countries worldwide use VAT or similar systems to ensure efficient tax collection and minimize cascading effects.

Q94. Answer: (c) Governor

The correct answer is Governor.

Key Points

• The Contingency Fund of an Indian State is established under Article 267(2) of the Constitution of India. It is maintained by each state to meet unforeseen expenditures.

• The fund is placed at the disposal of the Governor of the state, who has the authority to make advances out of it to meet urgent and unforeseen expenditures pending authorization by the state legislature.

• The fund is created by the state legislature through an act, specifying the total amount of the fund. This amount can vary from state to state.

• The Governor can advance money from the Contingency Fund when immediate action is required, and there is no time to seek approval from the legislature. Hence, the correct option is Governor.

• Once the expenditure is incurred, the state government must present it to the legislature for approval, and the amount withdrawn is subsequently recouped into the Contingency Fund.

Additional Information

• Contingency Fund of India:

• At the Union level, the Contingency Fund of India is established under Article 267(1) of the Indian Constitution. It is at the disposal of the President of India.

• It is used to meet unforeseen expenses that cannot wait for parliamentary approval. The fund is later replenished by the

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Parliament.

• The corpus of the Contingency Fund of India is fixed at Rs. 500 crore, as prescribed by the Parliament.

• Difference between Consolidated Fund and Contingency Fund:

• The Consolidated Fund is the main account of the government where all revenues received, loans raised, and money received in repayment of loans are credited. Expenditures from this fund require legislative approval.

• The Contingency Fund, on the other hand, is used for emergency expenditures that cannot wait for legislative approval.

• Role of the Governor in Finances:

• The Governor is the constitutional head of a state and has specific financial powers, including the authority to advance money from the Contingency Fund for urgent matters.

• He/she acts on the advice of the state council of ministers, headed by the Chief Minister, in financial matters.

• Examples of Contingency Fund Usage:

• Natural disasters, such as floods, cyclones, or earthquakes, often require immediate financial assistance, which can be drawn from the Contingency Fund.

• Emergency relief measures during pandemics or public health crises can also utilize this fund.

Important Points

• The Contingency Fund is meant to ensure the smooth functioning of the government in times of financial emergencies.

• It is a temporary arrangement, and all expenditures must later be approved by the legislature to maintain accountability and transparency.

• Both the Union and the States in India have their respective Contingency Funds, managed by the President and Governors, respectively.

• While the Governor has the authority to use the fund, the legislature plays a crucial role in ensuring proper checks and balances by approving or disapproving the expenditures.

Q95. Answer: (a) Kolkata port

The correct answer is Kolkata port.

Key Points

• Kolkata Port, officially known as the Syama Prasad Mukherjee Port, is located on the banks of the Hugli River in West Bengal, India.

• The port faces a major challenge due to silt accumulation in the Hugli River, which requires frequent dredging to maintain navigability.

• The problem of silt accumulation arises because the Hugli River is a distributary of the Ganges, carrying a heavy load of sediment deposited in the riverbed.

• This sedimentation significantly affects the port's draft depth, leading to difficulties in handling large vessels and increasing maintenance costs.

• The Kolkata Port relies on continuous dredging operations funded by the Government of India to ensure smooth functioning and to prevent disruptions in maritime trade.

Additional Information

• Kolkata Port:

• Established in 1870, it is one of the oldest operating ports in India.

• It serves as a crucial trade hub for the eastern and northeastern regions of India.

• It has two dock systems: Kolkata Dock System (KDS) and Haldia Dock Complex (HDC).

• The port primarily handles cargo such as petroleum products, iron ore, fertilizers, and containers.

• Silt Accumulation in Hugli River:

• The Hugli River is a tidal river, and its sediment load is influenced by the monsoon season and tides.

• Silt accumulation reduces the draft depth, making it challenging for large vessels to navigate.

• To combat this, the port authority conducts dredging operations to maintain a minimum draft level of 7 meters.

• This issue is exacerbated by the river's complex meandering patterns and the presence of shifting sandbanks.

• Comparison with Other Ports:

• Kochchi Port: Located in Kerala, it is a major port on the Arabian Sea and does not face issues of silt accumulation due to its coastal location.

• Tuticorin Port: Situated in Tamil Nadu, it is a deep-sea port handling large cargo vessels without challenges related to riverine siltation.

• Chennai Port: Also in Tamil Nadu, it is a coastal port with a natural harbor; it does not require extensive dredging compared to Kolkata Port.

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• Economic Impact:
• Silt accumulation increases operational costs due to regular dredging activities, impacting the port's profitability.
• It limits the port's ability to handle large vessels, affecting trade efficiency and capacity.
• The Government of India allocates significant funds annually to maintain navigability and ensure uninterrupted trade operations.

Important Points

• Hugli River Facts:
• The Hugli River is a distributary of the Ganges River, flowing through West Bengal.
• Its sedimentation is influenced by seasonal tides and upstream erosion.
• The river is vital for inland trade but poses challenges for maritime navigation due to sandbank formations.
• Dredging Technology:
• Dredging involves removing sediment deposits to deepen waterways and maintain navigability.
• Advanced dredging equipment, such as trailing suction hopper dredgers, is employed at Kolkata Port.
• Continuous dredging ensures the port remains operational despite the natural sedimentation process.
• Historical Significance:
• Kolkata Port played a crucial role in India's colonial trade as the gateway to the Bengal region.
• Post-independence, the port has remained a vital hub for exports and imports in eastern India.

Q96. Answer: (c) To formulate and implement five year plans.

The correct answer is To formulate and implement five-year plans..

Key Points

• The Planning Commission of India was established in 1950 by a resolution of the Government of India, under the chairmanship of the then Prime Minister Jawaharlal Nehru. Its primary objective was to formulate and implement five-year plans for the country's socio-economic development.
• The Commission was tasked with assessing the resources of the country and devising strategies to utilize them efficiently for economic growth and development. Hence, its primary function was to formulate and implement five-year plans.
• The first Five-Year Plan (1951-56) focused on the agricultural sector to address food shortages and ensure self-sufficiency. Subsequent plans targeted various sectors like industrialization, poverty alleviation, and infrastructure.
• The Planning Commission coordinated between central and state governments to ensure the successful implementation of plans and programs, while also monitoring their progress and effectiveness.
• It also played a role in allocating resources across different sectors and regions, ensuring balanced development across the country.

Additional Information

• Historical Background:
• The idea of central planning in India was inspired by the Soviet Union, where planning was used as a tool to achieve rapid industrialization and economic development.
• The Planning Commission was established on 15 March 1950, following India's independence in 1947, to fulfill the vision of a planned economy.
• Features of Five-Year Plans:
• The Five-Year Plans were aimed at achieving specific objectives like economic growth, poverty reduction, employment generation, and regional balance.
• Each plan was based on detailed studies of national priorities and resource availability, ensuring comprehensive coverage of various sectors.
• The Planning Commission used a mix of market mechanisms and government intervention to achieve developmental goals.
• Replacement of Planning Commission:
• In 2015, the Planning Commission was replaced by the NITI Aayog (National Institution for Transforming India) to align planning with the needs of a dynamic economy.
• NITI Aayog focuses on policy formulation, cooperative federalism, and real-time monitoring of developmental progress instead of fixed five-year plans.
• Functions of NITI Aayog:
• Unlike the Planning Commission, NITI Aayog acts as a think-tank and provides policy advice to both central and state governments.
• It emphasizes bottom-up planning and involves states as equal partners in the development process.

Important Points

• Option 1: "To control the inflation" is incorrect because the Planning Commission was not directly responsible for inflation control.

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This function falls under the purview of monetary and fiscal policies managed by the Reserve Bank of India (RBI) and the Ministry of Finance.

• Option 2: "To boost the foreign trade" is incorrect as foreign trade policies were managed by the Ministry of Commerce and Industry, not the Planning Commission.

• Option 4: "To monitor the currency exchange system in India" is incorrect because this responsibility lies with the Reserve Bank of India and not the Planning Commission.

• The Planning Commission's focus was on long-term development strategies, resource allocation, and sectoral planning, which makes Option 3 the correct answer.

Q97. Answer: (b) 2014

The correct answer is 2014.

Key Points

• The National Youth Policy (NYP) in India was launched in February 2014 by the Ministry of Youth Affairs and Sports.

• The policy aims to empower the youth of India by addressing issues related to education, employment, skill development, health, and leadership.

• The policy defines youth as individuals in the age group of 15 to 29 years, which constitutes about 27.5% of the population, according to the Census of 2011.

• The National Youth Policy 2014 was created to replace the earlier version from 2003, as it was considered outdated and less inclusive of the contemporary challenges faced by the youth.

• The policy focuses on five key priority areas: education, employment and skill development, entrepreneurship, health and sports, and social values and community engagement.

• It aims to channelize the potential of youth towards nation-building and inclusive development by providing opportunities for their holistic development.

Additional Information

• Key Objectives of National Youth Policy 2014:

• To develop an educated and skilled workforce to meet the demands of the growing economy.

• To promote a healthy lifestyle, physical fitness, and access to affordable healthcare for the youth.

• To foster social values and community service among young people to strengthen their role in nation-building.

• To encourage entrepreneurship and innovation by providing access to credit, infrastructure, and mentorship.

• To create an enabling environment for youth participation in governance and decision-making processes.

• Challenges Addressed by the Policy:

• High unemployment rates among youth, despite increasing levels of education.

• Limited access to quality education and skill development opportunities.

• Health challenges, including issues related to mental health, substance abuse, and lack of access to healthcare.

• Low levels of social engagement and community participation among youth.

• Inequality in access to opportunities based on gender, socio-economic status, and regional disparities.

• Implementation Mechanisms:

• The policy encourages partnerships between government bodies, private sector, and civil society to achieve its objectives.

• It also emphasizes the need for monitoring and evaluation frameworks to assess the impact of youth-centric initiatives.

• State governments are encouraged to formulate their own youth policies in alignment with the National Youth Policy.

• Statistics and Key Facts:

• India has the world's largest youth population, with about 356 million young people, as per the United Nations report.

• The National Youth Policy 2014 seeks to leverage this demographic dividend to drive economic growth and social development.

• As part of the policy, programs like the National Skill Development Mission and Start-Up India have been rolled out to support youth entrepreneurship and skill-building.

Important Points

• The National Youth Policy 2014 aims to engage and empower youth in a productive and constructive manner, recognizing them as critical agents of social change and economic progress.

• The policy emphasizes inclusivity by addressing the needs of marginalized and disadvantaged youth, including women, tribal populations, and persons with disabilities.

• It also aligns with global initiatives like the United Nations' Sustainable Development Goals (SDGs), particularly those related to quality education, decent work, and reduced inequalities.

• The policy encourages the creation of a National Youth Development Index to track progress and identify areas for improvement in youth development.

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Q98. Answer: (c) Pancreas

The correct answer is Pancreas.

Key Points

• The pancreas is a vital organ in the human digestive system responsible for secreting various digestive enzymes, including lipase.

• Pancreatic lipase plays a crucial role in the digestion of emulsified fats, breaking them down into glycerol and free fatty acids.

• The pancreas releases lipase into the small intestine through the pancreatic duct, where it interacts with bile salts to digest fats effectively.

• Bile, secreted by the liver and stored in the gall bladder, emulsifies fats, creating a larger surface area for lipase to act upon.

• The pancreas also secretes other enzymes like amylase (to digest carbohydrates) and protease (to digest proteins), making it an essential organ for overall digestion.

Additional Information

• Functions of the Pancreas:

• The pancreas is both an endocrine and exocrine organ. Its endocrine function includes producing hormones like insulin and glucagon for blood sugar regulation.

• Its exocrine function involves secreting digestive enzymes, such as lipase, amylase, and protease, into the small intestine to assist in food digestion.

• The pancreatic enzymes are crucial for breaking down carbohydrates, proteins, and fats into absorbable molecules.

• Bile and Fat Digestion:

• Bile, produced by the liver and stored in the gall bladder, emulsifies fats, making them accessible to pancreatic enzymes like lipase.

• Bile salts help in breaking down large fat molecules into smaller micelles, which are easier for lipase to digest.

• Role of Small Intestine:

• The small intestine is the site where most of the digestion and absorption of nutrients occur.

• It receives digestive enzymes from the pancreas and bile from the gall bladder to aid in the breakdown of proteins, carbohydrates, and fats.

• The small intestine contains specialized structures like villi and microvilli to increase the surface area for nutrient absorption.

• Other Organs and their Functions:

• Liver: Produces bile to emulsify fats, which is stored in the gall bladder.

• Gall bladder: Stores and releases bile into the small intestine when needed for fat digestion.

• Stomach: Secretes acid and enzymes like pepsin to begin the digestion of proteins.

Important Points

• Pancreatic Disorders: Disorders like pancreatitis (inflammation of the pancreas) can impair the secretion of digestive enzymes, leading to malabsorption.

• Lipase Deficiency: A deficiency in lipase can cause symptoms like fatty stools (steatorrhea) and poor absorption of fat-soluble vitamins (A, D, E, K).

• Gall bladder and Liver Diseases: Conditions like gallstones or liver dysfunction can reduce bile secretion, affecting fat digestion.

• Enzyme Supplements: In cases of pancreatic enzyme deficiency, supplements like pancrelipase are often prescribed to aid digestion.

Q99. Answer: (a) Only I

The correct answer is Only I.

Key Points

• Statement I: In humans, haemoglobin serves as the respiratory pigment. It is primarily responsible for the transport of oxygen from the lungs to tissues and organs and the return of carbon dioxide from the tissues to the lungs for exhalation. Hence, this statement is correct.

• Statement II: The claim that haemoglobin has a very low affinity for oxygen is incorrect. In fact, haemoglobin has a high affinity for oxygen, which allows it to efficiently bind oxygen in the lungs and release it in tissues where oxygen is required. Hence, this statement is incorrect.

• Haemoglobin is a protein found in red blood cells that contains iron. The iron component plays a vital role in binding oxygen molecules.

• Oxygen binds to haemoglobin in the lungs, forming oxyhaemoglobin, and is then transported to various parts of the body.

• Haemoglobin also assists in the transport of carbon dioxide back to the lungs, where it is expelled during respiration.

Additional Information

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• Structure of Haemoglobin:

• Haemoglobin is a quaternary protein composed of four subunits, each containing a heme group.

• The heme group contains an iron ion (Fe^{2+}) that binds oxygen molecules.

• This structure allows haemoglobin to transport up to four oxygen molecules simultaneously.

• Oxygen Affinity:

• Haemoglobin's affinity for oxygen is influenced by factors such as pH, temperature, and carbon dioxide concentration (known as the Bohr effect).

• In areas with high oxygen concentration, such as the lungs, haemoglobin binds oxygen efficiently. In tissues with lower oxygen concentration, it releases oxygen for cellular use.

• Carbon Dioxide Transport:

• While the majority of carbon dioxide is transported in the blood as bicarbonate ions, haemoglobin also binds a portion of carbon dioxide directly, forming carbaminohaemoglobin.

• This process aids in the removal of carbon dioxide from the body during respiration.

• Diseases Related to Haemoglobin:

• Conditions like anaemia result from reduced levels of haemoglobin, leading to symptoms such as fatigue and shortness of breath.

• Sickle cell disease is caused by a mutation in the haemoglobin gene, leading to abnormal haemoglobin structure and impaired oxygen transport.

• Evolutionary Adaptations:

• Haemoglobin has evolved to optimize oxygen transport in different species, with adaptations for specific environmental conditions (e.g., high altitude or aquatic environments).

• In humans, foetal haemoglobin (HbF) has a higher oxygen affinity than adult haemoglobin (HbA), ensuring efficient oxygen transfer from the mother to the foetus.

Important Points

• Normal Haemoglobin Levels:

• In adult males, normal haemoglobin levels range from 13.8 to 17.2 grams per decilitre (g/dL).

• In adult females, levels typically range from 12.1 to 15.1 g/dL.

• For children, normal levels are 11 to 16 g/dL.

• Haemoglobin Testing:

• Haemoglobin levels are commonly measured as part of a complete blood count (CBC) test.

• Low haemoglobin levels may indicate anaemia, while high levels could suggest polycythaemia.

• Haemoglobin Variants:

• Different forms of haemoglobin exist, such as HbA, HbF, and HbS, each with specific roles and characteristics.

• HbS is associated with sickle cell disease, while HbF is predominant in foetuses.

Q100. Answer: (d) Samhitas

The correct answer is Samhitas.

Key Points

• Samhitas are the earliest and most fundamental texts of the Vedic literature, forming the core of ancient Indian knowledge systems.

• They contain hymns, prayers, and rituals dedicated to various deities, as well as philosophical thoughts and cosmological concepts.

• The Samhitas are divided based on the respective Vedic branch they belong to: Rigveda, Yajurveda, Samaveda, and Atharvaveda.

• These texts were compiled to preserve the oral traditions and were used during ancient Indian conferences and discussions as references for rituals, spiritual practices, and societal norms.

• The Rigveda Samhita is considered the oldest of the Vedas and contains over 10,000 verses arranged in hymns.

Additional Information

• Vedas:

• The Vedas are a collection of ancient Indian scriptures composed in Sanskrit. They are divided into four parts: Rigveda, Yajurveda, Samaveda, and Atharvaveda.

• They consist of Samhitas (hymns), Brahmanas (rituals), Aranyakas (forest treatises), and Upanishads (philosophical texts).

• The Vedas are the oldest texts in Indian literature and form the foundation of Hindu philosophy and spirituality.

• Puranas:

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• Puranas are ancient Hindu texts that contain stories of gods, creation, and mythology. They are considered supplementary to the Vedas.
• They are divided into 18 Mahapuranas and numerous Upapuranas, serving as encyclopedias of Hinduism.
• Puranas also contain teachings on dharma (righteousness), cosmology, and genealogies of kings.
• Ganas:
• In ancient India, Ganas referred to groups or assemblies, often associated with tribal or political organizations.
• The term "Ganas" was used for democratic assemblies in certain ancient Indian republics like Vaishali.
• It is not directly related to the summaries of conferences or Vedic literature.

Important Points

• Samhitas:
• They are the first and most important section of the Vedic texts, forming the foundation of rituals and spiritual practices in ancient India.
• The oral tradition played a significant role in their preservation before they were written down.
• They provide insights into ancient Indian society, including its beliefs, rituals, and cosmology.
• Rigveda:
• The Rigveda is the oldest Samhita, dating back to around 1500 BCE.
• It consists of 1,028 hymns dedicated to deities like Agni, Indra, and Varuna.

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