SSC CHSL 2025 Tier-1 (Held On: 17 Nov, 2025 Shift 2) (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. It is imperative that he B. understands the severity of the situation C. and that he makes D. a clear, concise, and decisive statement to the press.

(a) It is imperative that he
(b) understands the severity of the situation
(c) and that he makes
(d) a clear, concise, and decisive statement to the press.

Q2. Identify the part of the sentence that contains a grammatical error.

A. The new employee B. seems to be C. a fast learner D. and more smarter than the last one.

(a) The new employee
(b) seems to be
(c) a fast learner
(d) and more smarter than the last one

Q3. Fill in the blank with the most appropriate preposition:

She persisted _____ all obstacles and criticism, proving her detractors wrong.

(a) against
(b) across
(c) through
(d) despite

Q4. Fill in the blank with the most appropriate phrasal verb:

The startup failed to _____ the expectations it had generated among investors.

(a) live down
(b) live through
(c) live up to
(d) live over

Q5. Choose the correctly spelt word:

(a) Adversity
(b) Advercity
(c) Adverisity
(d) Adverciti

Q6. 6 Which of the following sentences uses the word "tear" with the same meaning as in the following sentence?

"A single tear rolled down her cheek"

(a) He carefully tried not to tear the delicate fabric.
(b) The little girl's tear brought her mother running.

(c) Be careful not to tear the pages of the old book.
(d) The sharp edge of the paper can easily tear when handled roughly.

Q7. Choose the correctly spelt word:

(a) Precurious
(b) Pricarious
(c) Precarus
(d) Precarious

Directions

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

One of the biggest ethical dilemmas of the twenty-first century is brought up by the integration of artificial intelligence (AI) into modern combat, particularly in the form of autonomous weapons systems (AWS). The promise of strategic advantage is pitted against fundamental ethical principles in the fiercely debated issue of whether or not such "killer robots" should be allowed in combat. Supporters contend that autonomous weapons might decrease the loss of human life, since they do not fear, become tired, or suffer the emotional stress that can cause human mistakes in combat. They also might be able to operate with more accuracy and rapidity in an unpredictable environment, which could decrease civilian casualties.

The ethical arguments are serious, nonetheless. The most compelling argument is the transfer of the life-and-death decision-making from a human to a machine. Opponents contend that a computer, however sophisticated, could never have the moral calculus, compassion, or comprehension of human dignity to make such judgments. This creates an important question of accountability: in the event that an autonomous weapon kills without authorisation, who has the moral and legal culpability? Is it the programmer who wrote the algorithm, the commander who sent the system out, or the state that legitimised its use? The secrecy of AI's decision-making process, commonly known as a "black box," also adds to the difficulty in assigning blame. This built-in absence of clear moral and legal norms tests the very foundations of the international laws of armed conflict. Essentially, the debate about autonomous weapons puts us in a position of considering not only the technology but also human responsibility, judgment, and the ethical limits we are prepared to place on the waging of war.

Q8. Which of the following is the most compelling ethical argument against autonomous weapons in combat?

(a) The potential for increased civilian casualties
(b) The speed at which autonomous weapons operate
(c) The transfer of life-and-death decision-making to machines
(d) The lack of accountability in AI decisions

Q9. According to the passage, what is the primary concern regarding the integration of AI into modern warfare?

(a) The technology will never be able to operate in war zones
(b) Autonomous weapons may lack the moral responsibility to make life-and-death decisions
(c) It would be illegal under international laws of armed conflict
(d) AI could be hacked and used against states

Q10. In the passage, the term "moral calculus" refers to:

(a) A complex mathematical process
(b) The ability to make ethical decisions
(c) The calculation of military strategies
(d) The efficiency of AI systems in combat

Q11. What is the primary ethical concern raised by the "black box" nature of AI decision-making in AWS?

(a) It increases the speed of decision-making
(b) It hinders military efficiency
(c) It makes it difficult to assign moral and legal culpability
(d) It reduces the potential for civilian casualties

Q12. Which argument in favor of autonomous weapons is most strongly supported by proponents?

(a) They help reduce civilian casualties
(b) They can create more humane warfare
(c) They ensure that no human is ever at risk in combat
(d) They act with more accuracy and rapidity

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Q13. Choose the correct meaning of the idiom: Below the belt

(a) Hitting someone lightly
(b) Doing something with great care
(c) A punch in boxing
(d) Unfair or unjust behavior

Q14. Choose the correct meaning of the idiom: Star-crossed lovers

(a) Lovers whose relationship is doomed
(b) Lovers facing many challenges
(c) Very successful lovers
(d) Happy lovers

Q15. Select the most appropriate antonym of the word: Sporadic

(a) Infrequent
(b) Occasional
(c) Frequent
(d) Intermittent

Q16. Choose the correct one-word substitute for:

A place where dead bodies are kept for examination

(a) Cemetery
(b) Morgue
(c) Hospital
(d) Clinic

Q17. Select the most appropriate antonym of the word: Fastidious

(a) Meticulous
(b) Sloppy
(c) Fussy
(d) Perceptive

Q18. Choose the correct one-word substitute for:

A person who performs magic tricks

(a) Magician
(b) Sorcerer
(c) Wizard
(d) Illusionist

Q19. Change the following sentence into the Active form:

The city council's decision is thought to be influenced by powerful lobbying groups.

(a) Powerful lobbying groups think that the city council's decision is influenced.
(b) Powerful lobbying groups are thought to influence the city council's decision.
(c) People think that powerful lobbying groups influence the city council's decision.
(d) The city council thinks that powerful lobbying groups influence the decision.

Q20. Select the option that expresses the given sentence in indirect voice:

The guide said, "We will be exploring the ruins all morning."

(a) The guide said that they would be exploring the ruins all morning.
(b) The guide said that they will be exploring the ruins all morning.
(c) The guide said that we would be exploring the ruins all morning.
(d) The guide said that we will be exploring the ruins all morning.

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Q21. Choose the most suitable option to replace the highlighted part of the sentence:

Except for you and me, no one knew Radha.

(a) Except for you and I, no one knew Radha
(b) Except for you and me, no one knew Radha
(c) Except you and I, no one knew Radha
(d) Except for I and you, no one knew Radha

Q22. Choose the correct passive voice transformation of the sentence:

Why did the brilliant detective suddenly solve the complex mystery?

(a) Why was the complex mystery suddenly solved by the brilliant detective?
(b) Why was the complex mystery suddenly been solved by the brilliant detective?
(c) Why has the complex mystery been suddenly solved by the brilliant detective?
(d) Why did the complex mystery be solved by the brilliant detective?

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

The traveler explained that he was going to visit several historic sites on his trip.

(a) The traveler said, "He was going to visit several historic sites on his trip."
(b) The traveler said, "He is going to visit several historic sites on his trip."
(c) The traveler explained, "I was going to visit several historic sites on my trip."
(d) The traveler said, "I am going to visit several historic sites on my trip."

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

P. He disassembled the old engine with care, marking each component precisely.
Q. He torqued the bolts to the precise specifications, put in new gaskets, and replaced old parts.
R. After reassembling the engine, he put it back in the vehicle and reattached all of the hoses.
S. On the first turn of the key, the engine flickered to life and resumed its flawless operation.

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

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

P: As a result, the software significantly improved operational efficiency across departments
Q: The team worked tirelessly, refining the code and testing each feature for compatibility.
R: It was designed to simplify daily tasks and provide real-time data analysis.
S: A groundbreaking new software was developed to streamline workflow and increase productivity.

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

GENERAL INTELLIGENCE

Q26. A mixture contains milk and water in the ratio of 7:2. If the quantity of water in the mixture is 10 liters, what is the total quantity of the mixture?

(a) 35 liters
(b) 40 liters
(c) 45 liters
(d) 50 liters

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Q27. Find the next term in the series: A, C, F, J, O, ?

(a) T
(b) U
(c) V
(d) W

Q28. In a certain code, "BANK" is written as "NABK". How is "NOTE" written in that code?

(a) TENO
(b) ETNO
(c) ONTE
(d) TONE

Q29. In a certain code, "UNITED" is written as "DETINU". How is "FORMAL" written in that code?

(a) LAMROF
(b) LAMFOR
(c) MROFAL
(d) ALMFRO

Q30. In a certain code, "CHAIR" is written as "FKDLU". How is "TABLE" written in that code?

(a) WDEOH
(b) WCDJH
(c) VDEOG
(d) XDFOI

Q31. In a certain code, "TRAIN" is written as "VTCKP". How is "PLANE" written in that code?

(a) RNCPG
(b) RNCPI
(c) QMCPI
(d) QMDPH

Q32. What is the value of 15 × 4 - (20 ÷ 5) + 3?

(a) 59
(b) 60
(c) 61
(d) 62

Q33. A shop offers a 15% discount on an item priced at Rs. 1200. What is the selling price after the discount?

(a) Rs. 1000
(b) Rs. 1020
(c) Rs. 1050
(d) Rs. 1080

Q34. Directions: Pick the correct options from the given alternatives

17 : 289 :: 19 : ?

(a) 290
(b) 400
(c) 361
(d) 321

Q35. Directions: Pick the correct options from the given alternatives

12 : 156 :: 21 : ?

(a) 441
(b) 460
(c) 470
(d) 462

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Q36. Find the number of terms in the following series.

30, 35, 40, 45, ..., 100

(a) 10
(b) 15
(c) 20
(d) 25

Q37. Which of the following are twin prime numbers?

(a) (59, 61)
(b) (67, 71)
(c) (73, 79)
(d) (83, 89)

Q38. Pick the odd one out from these classifications.

(a) Salamander
(b) Newt
(c) Okapi
(d) Frog

Q39. Which of the following is the odd one out based on biological classification?

(a) Bacteria
(b) Protozoa
(c) Virus
(d) Fungi

Q40. Directions: Choose odd one out from these given options:

(a) Ellipse
(b) Pyramid
(c) Cylinder
(d) Sketch

Q41. Find the next term in the following series:

A2, D4, G8, J16, ?

(a) M24
(b) M32
(c) L32
(d) N24

Q42. Which of the following should be the next term in the given series?

z73, y79, x83, w89, ?

(a) v79
(b) v97
(c) u89
(d) u97

Q43. Find the missing term.

ELFA, GLHA, ILJA, ?, MLNA

(a) KLMA
(b) KLKA
(c) KLLA
(d) KLNA

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Q44. Which of the following letter will come next to the series?

X, P, J, F, D, ?

(a) D
(b) L
(c) T
(d) C

Q45. Which letter cluster will come next to the series?

ZC, WF, SI, NL, ?

(a) HO
(b) HR
(c) HQ
(d) HS

Q46. Find the next term in the letter cluster sequence.

ZBYD, YCWF, XDUH, ?

(a) WESJ
(b) WEUJ
(c) WETJ
(d) WESK

Q47. If + means ×, × means -, - means +, then evaluate: 7 + 5 × 3 - 2 = ?

(a) 34
(b) 32
(c) 30
(d) 36

Q48. Which of the following terms follows the trend of the given list?

PRQPQPQPQ, PQRPQPQPQ, PQP RQPQPQ, PQPQRPQPQ, PQPQP RQPQ, ?

(a) PQPQPQRPQ
(b) PQPQPQPRQ
(c) PQPQPQPQR
(d) PQPQPQPQP

Q49. Which letter cluster will complete the given series?

HKLW, IJNU, JIPS, ____, LGTO, MFVM

(a) KJQT
(b) KHQT
(c) KJRU
(d) KHRQ

Q50. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

IGS, MFX, QEC, UDH, ?

(a) BBM
(b) YBN
(c) YCM
(d) BCN

QUANTITATIVE APTITUDE

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Q51. A trader sells two articles at Rs. 960 each. On one, he gains 20%, and on the other, he loses 20%. What is his overall profit or loss percentage?

(a) 5% Profit
(b) 4% Loss
(c) 4% Profit
(d) 5% Loss

Q52. A vase has a marked price of Rs. 550. Simran pays Rs. 350 for it because she got 2 successive discounts, one of 20% and the other of:

(a) 21%
(b) 22%
(c) 19.25%
(d) 20.45%

Q53. A seller marks his goods 32% above their cost price but allows a 16% discount for cash payment. His percentage of profit when sold in cash is:

(a) 9.12%
(b) 8.25%
(c) 10.88%
(d) 11.5%

Q54. A company had 4 departments with an average of 45 employees each. Later, a fifth department was added with 90 employees. Due to restructuring, 10 employees from each of the original four departments were transferred to the new department. What is the new average number of employees per department?

(a) 50
(b) 52
(c) 54
(d) 56

Q55. A savings scheme offers compound interest annually. A woman deposits Rs. 10,000. At the end of the first year, the interest rate is 10%. In the second year, due to inflation, the interest rate rises to 12.5%, and in the third year, it drops to 8%. Calculate the total interest she earned at the end of 3 years.

(a) Rs. 3,265
(b) Rs. 3,365
(c) Rs. 3,285
(d) Rs. 3,460

Q56. What is the square of 129?

(a) 16541
(b) 16641
(c) 16741
(d) 16841

Q57. A perfect square between 50 and 70 is:

(a) 62
(b) 63
(c) 64
(d) 65

Q58. A and B started a business with investments of Rs. 5000 and Rs. 4000, respectively. After 6 months, A added Rs. 1000 and B added Rs. x. If the profit ratio is 11:18, find x.

(a) Rs. 9000
(b) Rs. 10000
(c) Rs. 12000
(d) Rs. 14000

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Q59. A started a business with Rs. 30,000. B joined after 5 months with Rs. 40,000. At the end of the year, the total profit was Rs. 80,000. What is the share of A?

(a) Rs. 40000
(b) Rs. 42000
(c) Rs. 45000
(d) Rs. 49000

Q60. A, B, and C start a business. A invests Rs. 5000 for 12 months, B Rs. 4000 for 9 months, and C Rs. 3000 for 6 months. If the total profit is Rs. 380000, find A's profit share.

(a) Rs. 250000
(b) Rs. 200000
(c) Rs. 260000
(d) Rs. 270000

Q61. A circular iron plate of radius 24 cm is heated, and its radius increases by 1.8%. What is the approximate percentage increase in its area?

(a) 1.8%
(b) 2.2%
(c) 3.6%
(d) 4.3%

Q62. If $x + y = 6$ and $x^2 + y^2 = 20$, then find the value of ($x^4 + x^2 y^2 + y^4$).

(a) 412
(b) 336
(c) 408
(d) 372

Q63. If $(6m - 5n)^2 = 7$ and $30mn = 60$, then find the value of $(6m + 5n)^2 + 16mn$.

(a) 235
(b) 207
(c) 279
(d) 244

Q64. If $\sec x - \tan x = 1/\sqrt{3}$, then the value of $\sec x \times \tan x$ is:

(a) 2/3
(b) $4/\sqrt{3}$
(c) $2/\sqrt{3}$
(d) 4/3

Q65. If $x = 7\sin A + 24\cos A$ and $y = 7\cos A - 24\sin A$, then what is the value of $3(x^2 + y^2)$?

(a) 1760
(b) 2120
(c) 1875
(d) 1290

Q66. A man pulls a rope tied to a flagpole at ground level. The rope is 20 meters long and makes an angle of 60° with the ground. How high up the flagpole is the point where the rope is tied? Also, find the horizontal distance between the man and the base of the flagpole.

(a) 9.55 meters and 15 meters
(b) 11.45 meters and 16 meters
(c) 17.32 meters and 10 meters
(d) 12.88 meters and 19 meters

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Q67. An amount of Rs. 'z' is invested in two different schemes—one offers simple interest at 13% p.a. for 4 years, and the other offers compound interest at 12% p.a. compounded annually for 2 years. If the total amount from the simple interest scheme exceeds the compound interest scheme by Rs. 78, then find the value of z.

(a) Rs. 287
(b) Rs. 293.67
(c) Rs. 245.5
(d) Rs. 299.88

Q68. A sum of Rs. 7,500 is invested in a scheme offering r% compound interest for 2 years. Find the value of 'r' if the difference in the simple interest and compound interest for the same amount at the same rate of interest after 2 years is Rs. 108.

(a) 10%
(b) 8%
(c) 12%
(d) 9%

Q69. Gaurav invested Rs. 'x' in a scheme offering 10% compound interest for three years. Prem invested Rs. 18,000 in a scheme offering 15% simple interest for four years. Find the interest earned by Gaurav if the interest earned by Prem is Rs. '2x – 1,200'.

(a) Rs. 1,215
(b) Rs. 1,779
(c) Rs. 1,560
(d) Rs. 1,986

Q70. The sum of three numbers is 144. If the numbers are in a ratio of 3:4:5, find the smallest number.

(a) 36
(b) 48
(c) 46
(d) 38

Q71. Box A, contains tea worth Rs. 350 per kg and in box B contains tea worth Rs. 450 per kg. If both box A and B are mixed in the ratio 4 : 6 then the price of the mixture per kg is approximately:

(a) 400/-
(b) 350/-
(c) 410/-
(d) 440/-

Q72. A recipe for a cake calls for 2 cups of milk and 3 cups of flour. With this recipe, a cake was baked using 12 cups of flour. How many cups of milk were required?

(a) 7 cups
(b) 9 cups
(c) 8 cups
(d) 10 cups

Q73. Train 'P' can cross a pole in 8 seconds, while train 'Q' takes 15 seconds to cross train 'P' when they travel in opposite directions on parallel tracks. If the ratio of length of train 'P' to that of train 'Q' is 2:3 and the speed of train 'P' is 54 km/h, then find the speed [in km/h] of train 'Q'.

(a) 28 km/h
(b) 12 km/h
(c) 22 km/h
(d) 18 km/h

Q74. A thief is 2,000 metres ahead of a policeman when the policeman starts a chase by running at 20 m/s. If the thief is running at 12 m/s, then find the time taken by the policeman to catch the thief.

(a) 210 seconds
(b) 280 seconds

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(c) 250 seconds
(d) 220 seconds

Q75. An item undergoes two successive discounts: 12.5% (i.e., 1/8) and then 20%. After those discounts, a tax of 18% is applied on the reduced price, and the final amount the customer pays is Rs. 927. What was the original price of the item? [Give exact value and a rounded amount to two decimal places]

(a) Rs. 1022.28
(b) Rs. 1028.22
(c) Rs. 1128.22
(d) Rs. 1122.28

GENERAL AWARENESS

Q76. Which of the following statements is correct regarding the parts of Indian constitution?

I. Part VIII is related with the Union territories.

II. Part IX is related with the Co-Operative Societies.

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

Q77. In July 2025, Union Minister Sarbananda Sonowal said the Kaladen project between India and Myanmar will be operational by _____.

(a) 2027
(b) 2026
(c) 2028
(d) 2029

Q78. As of 31st July 2025, which of the following country is the part of East Asia Summit Process?

(a) Australia
(b) UAE
(c) Saudi Arabia
(d) Brazil

Q79. Which freedom fighter was also known as "Badshah Khan" or "Frontier Gandhi"?

(a) Abdul Ghaffar Khan
(b) Ashfaqulla Khan
(c) Zakir Husain Khan
(d) Hakim Ajmal Khan

Q80. Who has been appointed as the Director of the Indian Agricultural Research Institute (IARI) in December 2024?

(a) Cherukumalli Srinivasa Rao
(b) Ajit Vinayak Gupte
(c) Pranay Verma
(d) Praveen Vashista

Q81. There are _____ sub-schemes under the PM-YASASVI Scheme.

(a) 2
(b) 5
(c) 78
(d)

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Q82. Which ministry is the nodal ministry for the Bio-RIDE Scheme approved in September 2024?

(a) Ministry of Science & Technology
(b) Ministry of Health & Family Welfare
(c) Ministry of New and Renewable Energy
(d) Ministry of Education

Q83. Who was the head coach of the team that won the ICC Men's T20 World Cup 2024?

(a) Jonathan Trott
(b) Andrew McDonald
(c) Rahul Dravid
(d) Rob Walter

Q84. Volleyball made its Olympic debut at the _____ Olympic games.

(a) 1958
(b) 1960
(c) 1962
(d) 1964

Q85. In 2025, hockey Men's Asia Cup was held in which country?

(a) India
(b) Sri Lanka
(c) China
(d) Bangladesh

Q86. Who among the following is a violinist hailed from Andhra Pradesh?

(a) U. Srinivas
(b) Chitti Babu
(c) Sheik Chinna Moulana
(d) Dwaram Venkataswamy Naidu

Q87. Who is the author of the book 'The God of Small Things'?

(a) Ruskin Bond
(b) Arundhati Roy
(c) R.K. Narayan
(d) Mulk Raj Anand

Q88. Natya Shastra by Bharat Muni clubbed musical instruments into how many groups?

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

Q89. Who is the author of the book "Miss Laila, Armed and Dangerous"?

(a) Sachin Kundalkar
(b) Ruchir Joshi
(c) Manu Joseph
(d) Ajay K Pandey

Q90. Which of the following temples is also known as "Taj Mahal of the South"?

(a) Sri Jagannath Puri Temple, Puri
(b) Meenakshi Temple, Madurai
(c) Sri Venkateswara Temple, Tirupati
(d) Chamundeshwari Temple, Mysore

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Q91. 'Raja' festival is celebrated in which of the following state?

(a) Nagaland
(b) Gujarat
(c) Karnataka
(d) Odisha

Q92. In which Indian state is the 'Garia' dance traditionally performed?

(a) Gujarat
(b) Jharkhand
(c) Maharashtra
(d) Tripura

Q93. What is the name of the long-range glide bomb successfully tested by DRDO from a Su-30 MKI aircraft in 2025?

(a) Prithvi
(b) Agni
(c) Gaurav
(d) BrahMos

Q94. What was the primary cause of India's 1991 economic crisis?

(a) A major natural disaster.
(b) The government inability to repay foreign borrowings.
(c) The state government inefficiency to not contribute to national economy.
(d) High level of illegal migration from Pakistan and Bangladesh.

Q95. In India, Directorate General of Foreign Trade (DGFT) was incepted in the year _____.

(a) 1997
(b) 1991
(c) 1995
(d) 1993

Q96. Which of the following veto powers is not available to the President of India?

(a) Absolute Veto
(b) Pocket Veto
(c) Qualified Veto
(d) Suspensive Veto

Q97. Who decides whether a bill is a Money Bill or not?

(a) President
(b) Speaker of the House of the People
(c) Prime Minister
(d) Finance Minister

Q98. Carbon dioxide is transported to the lungs from all parts of the body through _____ in humans.

(a) Sweat
(b) Mucus
(c) Blood
(d) Lymph

Q99. Mahavira Jain was born in a royal family near which ancient city?

(a) Taxila
(b) Vaishali
(c) Ujjain
(d) Pataliputra

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Q100. In initial filtrate of kidney, which of the following substance is selectively re-absorbed as the urine flows along the tube in a human kidney?

I. Glucose

II. Amino acids

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

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) understands the severity of the situation

The correct answer is Option 2.

Key Points

• The sentence requires the subjunctive mood because it begins with the phrase "It is imperative that..."

• After certain "demand" or "necessity" adjectives (such as imperative, essential, crucial, important) followed by "that," the verb must be in its base form (the infinitive without "to"), regardless of the subject.

• Therefore, "understands" should be "understand." (Note: Part C also contains the same error with "makes," which should be "make," but Part B is the first instance of this grammatical violation).

• Thus, the primary error is located in part B (Option 2) of the sentence.

Therefore, the correct answer is Option 2.

Correct Sentence: "It is imperative that he understand the severity of the situation and that he make a clear, concise, and decisive statement to the press."

Additional Information

• A: "It is imperative that he" – This part correctly introduces the subjunctive clause.

• C: "and that he makes" – While this also contains a subjunctive error (it should be "make"), in multiple-choice questions, the first error or the one provided in the key option is targeted.

• D: "a clear, concise, and decisive statement to the press." – This part is grammatically correct and uses the Oxford comma and adjectives properly.

• The Subjunctive Mood: We use the base form of the verb (be, go, work, understand) for all persons. Example: "I suggest that he be on time" instead of "he is."

Q2. Answer: (d) and more smarter than the last one

The correct answer is Option 4.

Key Points

• The primary issue in the sentence is the use of a double comparative ("more smarter").

• In English, comparative adjectives are formed either by adding the suffix "-er" (for short words like smart) or by using the word "more" (for longer words like intelligent).

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• You should never use both at the same time. Since "smarter" is already in the comparative form, "more" is redundant and grammatically incorrect.

• Thus, the error is located in part D (Option 4) of the sentence.

Therefore, the correct answer is Option 4.

Correct Sentence: "The new employee seems to be a fast learner and smarter than the last one."

Additional Information

• A: "The new employee" – This is the subject of the sentence and is grammatically correct.

• B: "seems to be" – This linking verb phrase correctly connects the subject to the predicate.

• C: "a fast learner" – This is a correctly structured noun phrase acting as a complement.

• Comparative Rules: Use "-er" for one-syllable adjectives (faster, taller). Use "more" for adjectives with three or more syllables (more beautiful, more expensive). For two-syllable adjectives, the rule varies, but "smarter" is the standard for "smart."

Q3. Answer: (c) through

The correct answer is 'through'.

Key Points

• The preposition "through" is used to indicate movement or persistence across an obstacle or difficulty.

• The sentence describes the subject overcoming obstacles and criticism, making "through" the most appropriate choice.

• Options 1, 2, and 4 do not fit the context grammatically or semantically.

Therefore, the correct answer is Option 3.

Complete Sentence: "She persisted through all obstacles and criticism, proving her detractors wrong."

Additional Information

• Option 1: "against" is incorrect because it implies opposition, not persistence across difficulties.

• Option 2: "across" is incorrect; it indicates physical movement over an area rather than persistence.

• Option 4: "despite" is incorrect because it requires a different sentence construction (e.g., "despite obstacles").

Q4. Answer: (c) live up to

The correct answer is 'live up to'.

Key Points

• The phrasal verb "live up to" means to meet or fulfill expectations, standards, or promises.

• The sentence discusses the failure of a startup to fulfill expectations, so "live up to" is the most appropriate choice.

• Options 1, 2, and 4 do not convey the intended meaning in this context.

Therefore, the correct answer is Option 3.

Complete Sentence: "The startup failed to live up to the expectations it had generated among investors."

Additional Information

• Option 1: "live down" means to overcome or make others forget a shameful or embarrassing event, which is irrelevant here.

• Option 2: "live through" means to survive or endure a difficult experience, which does not fit the context.

• Option 4: "live over" is not a standard phrasal verb in English and is therefore incorrect.

Q5. Answer: (a) Adversity

The solution is in Hindi. Read it online.

Q6. Answer: (b) The little girl's tear brought her mother running.

The solution is in Hindi. Read it online.

Q7. Answer: (d) Precarious

The solution is in Hindi. Read it online.

Q8. Answer: (c) The transfer of life-and-death decision-making to machines

The correct answer is 'Option 3'.

Key Points

• Analyzing the ethical arguments in the passage:

• The second paragraph explicitly and directly answers this question. It states: "The most compelling argument is the transfer of the life-and-death decision-making from a human to a machine."

• The text explains that opponents believe this is the core issue because a computer or machine lacks the "moral calculus, compassion, or comprehension of human dignity" required to make ethical judgments about taking a human life.

Therefore, the correct answer is The transfer of life-and-death decision-making to machines.

Additional Information

• Option 1 (The potential for increased civilian casualties): Incorrect because the passage actually presents the opposite point as a supporting argument for the weapons: supporters contend AWS might "decrease civilian casualties" due to accuracy.

• Option 2 (The speed at which autonomous weapons operate): Incorrect because the speed (operating with "rapidity") is listed in the first paragraph as a strategic advantage and a reason supporters favor the technology, not an argument against it.

• Option 4 (The lack of accountability in AI decisions): Incorrect. While accountability and the "black box" of AI are major concerns discussed in the passage, the author specifically reserves the phrase "most compelling argument" for the transfer of the decision-making process itself.

Q9. Answer: (b) Autonomous weapons may lack the moral responsibility to make life-and-death decisions

The correct answer is 'Option 2'.

Key Points

• Analyzing the primary concern in the passage:

• The passage emphasizes that the core ethical dilemma is the "transfer of the life-and-death decision-making from a human to a machine."

• It explicitly states that opponents believe a computer "could never have the moral calculus, compassion, or comprehension of human dignity to make such judgments."

• Therefore, the primary concern driving the ethical debate is that autonomous weapons inherently lack the moral responsibility and human judgment required to make life-and-death decisions in combat.

Therefore, the correct answer is Autonomous weapons may lack the moral responsibility to make life-and-death decisions.

Additional Information

• Option 1 (The technology will never be able to operate in war zones): Incorrect because the passage suggests the opposite. Supporters argue AWS might "operate with more accuracy and rapidity in an unpredictable environment."

• Option 3 (It would be illegal under international laws of armed conflict): Incorrect because while the passage notes that AWS "tests the very foundations of the international laws of armed conflict," it frames their use as a fiercely debated issue awaiting clear norms, not as an established illegality.

• Option 4 (AI could be hacked and used against states): Incorrect because the passage focuses entirely on the ethical dilemmas of the AI's autonomous decision-making (the "black box") and accountability, rather than the threat of hacking or cyber hijacking.

Q10. Answer: (b) The ability to make ethical decisions

The correct answer is 'Option 2'.

Key Points

• Analyzing the term "moral calculus":

• In the passage, the term "moral calculus" is grouped together with "compassion" and "comprehension of human dignity."

• It is used to describe the uniquely human capacity that opponents argue computers lack when tasked with making life-and-death judgments.

• While "calculus" usually implies math, in philosophical and ethical contexts, a "moral calculus" refers to the process of weighing right and wrong, evaluating ethical variables, and arriving at a humane, ethical decision.

Therefore, the correct answer is The ability to make ethical decisions.

Additional Information

• Option 1 (A complex mathematical process): Incorrect because the word "calculus" is being used metaphorically in an ethical sense, not literally to describe mathematics.

• Option 3 (The calculation of military strategies): Incorrect because the passage separates strategic advantage (which AI might have) from the ethical, human judgment required to take a life (which AI lacks).

• Option 4 (The efficiency of AI systems in combat): Incorrect because efficiency is precisely what supporters claim AI possesses, whereas "moral calculus" is specifically identified as something AI is missing.

Q11. Answer: (c) It makes it difficult to assign moral and legal culpability

The correct answer is 'Option 3'.

Key Points

• Analyzing the "black box" concern:

• The passage states that the secrecy of AI's decision-making process is commonly known as a "black box."

• It explicitly links this "black box" nature to the "difficulty in assigning blame." Because we cannot transparently see how the machine arrived at its decision to kill, it becomes almost impossible to determine who is responsible (the programmer, the commander, or the state) if the weapon kills without authorization.

• Therefore, the primary ethical concern is that this opacity makes it profoundly difficult to establish moral and legal culpability.

Therefore, the correct answer is It makes it difficult to assign moral and legal culpability.

Additional Information

• Option 1 (It increases the speed of decision-making): Incorrect because increased speed is cited as a potential strategic advantage by supporters, not an ethical concern caused by the opacity of the "black box."

• Option 2 (It hinders military efficiency): Incorrect because the text suggests autonomous weapons might actually operate with more rapidity and accuracy, thereby potentially increasing efficiency, not hindering it.

• Option 4 (It reduces the potential for civilian casualties): Incorrect because this is an argument used by supporters of the technology, whereas the "black box" is presented as a major ethical dilemma regarding accountability.

Q12. Answer: (d) They act with more accuracy and rapidity

The correct answer is 'Option 4'.

Key Points

• Analyzing the proponents' arguments:

• The passage explicitly outlines the arguments made by supporters of autonomous weapons in the first paragraph.

• It states: "They also might be able to operate with more accuracy and rapidity in an unpredictable environment, which could decrease civilian casualties."

• While reducing casualties is the ultimate goal, the foundational argument proponents use to support the deployment of these weapons is their inherent technical ability to act faster (rapidity) and with greater precision (accuracy) than human soldiers who suffer from fatigue, fear, and emotional stress.

Therefore, the correct answer is They act with more accuracy and rapidity.

Additional Information

• Option 1 (They help reduce civilian casualties): Incorrect because while it is a stated benefit, the passage frames it as a secondary outcome ("which could decrease...") resulting directly from the weapons' primary attribute of operating with accuracy and rapidity.

• Option 2 (They can create more humane warfare): Incorrect because the passage does not use this terminology. Opponents actually argue that machines lack the compassion or moral calculus to be humane.

• Option 3 (They ensure that no human is ever at risk in combat): Incorrect because this is an absolute statement ("no human is ever at risk") that is far too extreme and is not supported by the text.

Q13. Answer: (d) Unfair or unjust behavior

The solution is in Hindi. Read it online.

Q14. Answer: (a) Lovers whose relationship is doomed

The solution is in Hindi. Read it online.

Q15. Answer: (c) Frequent

The solution is in Hindi. Read it online.

Q16. Answer: (b) Morgue

The solution is in Hindi. Read it online.

Q17. Answer: (b) Sloppy

The solution is in Hindi. Read it online.

Q18. Answer: (a) Magician

The solution is in Hindi. Read it online.

Q19. Answer: (c) People think that powerful lobbying groups influence the city council's decision.

The correct answer is Option 3.

Key Points

• Identify the Complex Passive: The original sentence "The city council's decision is thought to be influenced..." is a passive construction used for reporting opinions or beliefs.

• Determine the Agent of Belief: The sentence uses the passive reporting verb "is thought," but doesn't specify who thinks this. In active voice, we use a general subject like "People," "Many," or "They."

• Determine the Agent of Influence: The phrase "to be influenced by powerful lobbying groups" identifies "powerful lobbying groups" as the ones performing the action of influencing.

• Structure the Active Sentence: To make it fully active, we start with the general subject (People) + the active reporting verb

(think) + the subordinate clause where the lobbying groups become the subject (powerful lobbying groups influence the city council's decision).

Therefore, the correct answer is Option 3.

Correct Sentence: "People think that powerful lobbying groups influence the city council's decision."

Additional Information

• Option 1: "Powerful lobbying groups think..." – This changes the meaning; it suggests the groups are the ones holding the opinion, rather than being the ones exerting the influence.

• Option 2: "are thought to influence" – This is still a passive construction (Passive Reporting Verb).

• Option 4: "The city council thinks..." – This incorrectly identifies the city council as the agent of the "thinking" action.

Q20. Answer: (a) The guide said that they would be exploring the ruins all morning.

The correct answer is Option 1.

Key Points

• Direct Speech: The guide said, "We will be exploring the ruins all morning."

• Key Conversions:

• Pronoun Change:

• The first-person plural pronoun "We" in direct speech refers to the guide and the group. When reported by someone else, it typically changes to the third-person plural "they."

• Modal Verb Change (Backshifting):

• Since the reporting verb "said" is in the past tense, the future modal "will" shifts to its past form, "would."

• Tense Maintenance:

• The continuous aspect "be exploring" remains unchanged after the shifted modal verb.

Therefore, the correct answer is Option 1.

Correct Sentence: "The guide said that they would be exploring the ruins all morning."

Additional Information

• Option 2: Corrects the pronoun but fails to shift the tense from "will" to "would."

• Option 3: Corrects the tense but fails to change the pronoun "we" to "they," which is standard in indirect reporting unless the reporter is part of the group.

• Option 4: Fails to change both the pronoun and the tense.

Q21. Answer: (b) Except for you and me, no one knew Radha

The correct answer is 'Except for you and me, no one knew Radha'.

Key Points

• The phrase "Except for you and me" is grammatically correct because "me" is the appropriate pronoun to follow a preposition like "for."

• Option 1 ("Except for you and I") is incorrect because the pronoun "I" is used incorrectly after the preposition "for."

• Option 3 ("Except you and I") is incorrect because the preposition "for" is missing, and "I" is used incorrectly.

• Option 4 ("Except for I and you") is incorrect because "I" is not the correct form to use after the preposition "for."

Therefore, the correct answer is Option 2.

Complete Sentence: "Except for you and me, no one knew Radha."

Additional Information

• Option 1: "Except for you and I" is incorrect because "I" should not follow a preposition like "for."

• Option 3: "Except you and I" is incorrect because it omits the preposition "for" and incorrectly uses "I" instead of "me."

• Option 4: "Except for I and you" is incorrect because "I" is not the correct pronoun to use after "for."

Q22. Answer: (a) Why was the complex mystery suddenly solved by the brilliant detective?

The correct answer is Option 1.

Key Points

• Identify the Tense: The active sentence "Why did... solve" is an interrogative sentence in the Simple Past Tense.

• Interrogative Passive Structure (Simple Past): The formula is Wh-word + was/were + Object + Past Participle (V3) + by + Subject?.

• Step 1: Keep the question word "Why" at the beginning.

• Step 2: Use the auxiliary verb "was" because the new subject, "the complex mystery," is singular.

• Step 3: Convert the main verb "solve" to its third form (V3), which is "solved."

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• Step 4: Place the adverb "suddenly" before the main verb for proper flow, and add the agent "by the brilliant detective."

Therefore, the correct answer is Option 1.

Correct Sentence: "Why was the complex mystery suddenly solved by the brilliant detective?"

Additional Information

• Option 2: "was... been solved" – This is grammatically incorrect; "been" is used with "have/has/had," not with "was" in the simple past passive.

• Option 3: "has... been suddenly solved" – This changes the tense to Present Perfect Passive, which does not match the original Simple Past "did."

• Option 4: "did... be solved" – This is an incorrect construction for passive voice questions. "Did" is replaced by "was/were" in the passive form.

Q23. Answer: (d) The traveler said, "I am going to visit several historic sites on my trip."

The correct answer is Option 4.

Key Points

• Indirect Speech: The traveler explained that he was going to visit several historic sites on his trip.

• Key Conversions:

• Pronoun Change:

• When shifting to direct speech, the third-person pronouns "he" and "his" must change to the first-person "I" and "my" to represent the traveler speaking for himself.

• Tense Change (Forward-shifting):

• The past continuous form "was going to" in indirect speech is converted back to the present continuous form "am going to" in direct speech to reflect the speaker's original perspective.

• Reporting Clause:

• The conjunction "that" is removed, and the reporting verb (explained/said) is followed by a comma and the quoted speech in quotation marks.

Therefore, the correct answer is Option 4.

Correct Sentence: "The traveler said, 'I am going to visit several historic sites on my trip.'"

Additional Information

• Option 1: Retains the third-person pronoun "he" and the past tense "was," which is grammatically incorrect for direct speech in this context.

• Option 2: Changes the tense to "is" but fails to change the pronoun to "I," making it sound like the traveler is talking about someone else.

• Option 3: Correctly changes the pronouns to "I" and "my" but incorrectly keeps the past tense "was," which doesn't fit the direct speech format for a current plan.

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

The correct answer is Option 2.

Key Points

• The paragraph outlines a logical, chronological sequence of a mechanical repair process, moving from teardown to reassembly and testing.

• Sentence P is the first sentence as it identifies the starting point of the project—the careful disassembly of the machinery:

• "He disassembled the old engine with care, marking each component precisely."

• Sentence Q follows as the middle stage of the repair, focusing on the specific internal maintenance and replacement of parts:

• "He torqued the bolts to the precise specifications, put in new gaskets, and replaced old parts."

• Sentence R is the third sentence because it describes the completion of the reassembly and the physical reinstallation of the engine into its frame:

• "After reassembling the engine, he put it back in the vehicle and reattached all of the hoses."

• Sentence S is the fourth sentence as it provides the satisfying conclusion—the moment the work is tested and proven successful:

• "On the first turn of the key, the engine flickered to life and resumed its flawless operation."

• The correct sequence is PQRS.

Coherent paragraph after rearrangement:

"He disassembled the old engine with care, marking each component precisely. He torqued the bolts to the precise specifications, put in new gaskets, and replaced old parts. After reassembling the engine, he put it back in the vehicle and reattached all of the hoses. On the first turn of the key, the engine flickered to life and resumed its flawless operation."

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

The correct answer is Option 1.

Key Points

• The paragraph follows the lifecycle of a software project: from its initial inception and purpose to the labor involved and the final impact on the organization.

• Sentence S is the first sentence because it introduces the primary subject (the groundbreaking new software) and the overall goal of the project:

• "A groundbreaking new software was developed to streamline workflow and increase productivity."

• Sentence R follows as it uses the pronoun "It" to refer back to the software and elaborates on its specific design features:

• "It was designed to simplify daily tasks and provide real-time data analysis."

• Sentence Q is the third sentence as it describes the developmental effort and quality assurance phase required to make the software functional:

• "The team worked tirelessly, refining the code and testing each feature for compatibility."

• Sentence P is the fourth sentence because it uses the transition phrase "As a result" to conclude the narrative with the successful outcome of the implementation:

• "As a result, the software significantly improved operational efficiency across departments."

• The correct sequence is SRQP.

Coherent paragraph after rearrangement:

"A groundbreaking new software was developed to streamline workflow and increase productivity. It was designed to simplify daily tasks and provide real-time data analysis. The team worked tirelessly, refining the code and testing each feature for compatibility. As a result, the software significantly improved operational efficiency across departments."

Q26. Answer: (c) 45 liters

The logic followed here is:

Logic: In a mixture, if the ratio of milk to water is given, total parts = sum of ratio parts. Quantity of water = (water's ratio part ÷ total parts) × total quantity. Use this to find the total quantity.

Calculation:

Ratio of milk : water = 7 : 2

Total parts = 7 + 2 = 9

Let total quantity of mixture = x liters

Water's part = (2 ÷ 9) × x = 10

x = 10 × (9 ÷ 2) = 45 liters

Hence, the correct answer is Option 3.

Q27. Answer: (b) U

The logic followed here is:

So, 'U' will replace the question mark in the given series.

Hence, the correct answer is "Option 2".

Q28. Answer: (d) TONE

The logic followed here is:

Given: BANK → NABK

Similarly, For NOTE:

So, NOTE → TONE

Hence, the correct answer is "Option 4".

Q29. Answer: (a) LAMROF

The logic followed here is:

Given: UNITED → DETINU

So, the code reverses the order of letters.

Similarly, For FORMAL:

So, FORMAL → LAMROF

Hence, the correct answer is "Option 1".

Q30. Answer: (a) WDEOH

The logic followed here is:
Given: CHAIR → FKDLU
So, each letter is shifted +3.
Similarly, For TABLE:
So, TABLE → WDEOH
Hence, the correct answer is "Option 1".

Q31. Answer: (a) RNCPG

The logic followed here is:
Given: TRAIN → VTCKP
Similarly, For PLANE:
So, PLANE → RNCPG
Hence, the correct answer is "Option 1".

Q32. Answer: (a) 59

BODMAS Table
The logic followed here is:
Given equation: 15 × 4 - (20 ÷ 5) + 3
Now, follow BODMAS:
=> 15 × 4 - (20 ÷ 5) + 3
=> 15 × 4 - 4 + 3
=> 60 - 4 + 3
=> 56 + 3 = 59
Hence, the correct answer is "Option 1".

Q33. Answer: (b) Rs. 1020

Given equation:
Original price = Rs. 1200, Discount = 15%
Now, Selling Price = Original Price − Discount
=> Discount = 15% of 1200 = (15 ÷ 100) × 1200 = 180
=> Selling Price = 1200 − 180 = 1020
Hence, the correct answer is "Option 2".

Q34. Answer: (c) 361

The logic followed here is:
Given: 17 : 289
Logic: The second number is the square of the first number → $17^2 = 289$
Similarly, For 19:
$19^2 = 361$
Hence, 19 → 361
Hence, the correct answer is "Option 3".

Q35. Answer: (d) 462

The logic followed here is:
Given: 12 : 156
Logic: Multiply the number by itself and then by the next number → 12 × 13 = 156
Similarly, For 21:
21 × 22 = 462
Hence, 21 → 462
Hence, the correct answer is "Option 4".

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Q36. Answer: (b) 15

The logic followed here is:

Given series: 30, 35, 40, 45, …, 100

Logic: This is an arithmetic progression (AP) with first term a = 30 and common difference d = 5.

Number of terms = [(Last term − First term) ÷ Common difference] + 1

Calculation:

n = (100 − 30) ÷ 5 + 1

n = 70 ÷ 5 + 1

n = 14 + 1 = 15

Hence, the correct answer is "Option 2".

Q37. Answer: (a) (59, 61)

The logic followed here is:

Logic: Twin prime numbers are two prime numbers whose difference is exactly 2.

Calculation:

Option 1: (59, 61) → Both are prime and difference = 61 − 59 = 2

Option 2: (67, 71) → Difference = 4

Option 3: (73, 79) → Difference = 6

Option 4: (83, 89) → Difference = 6

Hence, the correct answer is Option 1.

Q38. Answer: (c) Okapi

The logic is based on types of animals.

Option 1: Salamander – An amphibian.

Option 2: Newt – An amphibian.

Option 3: Okapi – A mammal.

Option 4: Frog – An amphibian.

Among these, Okapi is the only mammal, while the others are amphibians.

Hence, the odd one out is Option 3.

Q39. Answer: (c) Virus

The logic is based on biological classification.

Option 1: Bacteria – Living organism (prokaryotic).

Option 2: Protozoa – Living organism (unicellular eukaryote).

Option 3: Virus – Non-living outside a host; not considered a true living organism.

Option 4: Fungi – Living organism (eukaryotic).

Among these, Virus is not a true living organism, while the others are living organisms.

Hence, the odd one out is Option 3.

Q40. Answer: (d) Sketch

The logic is based on types of shapes.

Option 1: Ellipse – A geometric shape.

Option 2: Pyramid – A three-dimensional geometric shape.

Option 3: Cylinder – A three-dimensional geometric shape.

Option 4: Sketch – A drawing, not a geometric shape.

Among these, Sketch is not a geometric shape, while the others are shapes.

Hence, the odd one out is Option 4.

Q41. Answer: (b) M32

The logic followed here is:

Logic: Letters increase by +3 positions and numbers double each time.

So, the next term = M32

Hence, the correct answer is Option 2.

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Q42. Answer: (b) v97

The logic followed here is:

Logic: Letters move backward by 1 position and numbers follow consecutive prime numbers.

So, the next term = v97

Hence, the correct answer is Option 2.

Q43. Answer: (c) KLLA

The logic followed here is:

So, the missing term = KLKA

Hence, the correct answer is Option 2.

Q44. Answer: (a) D

The logic followed here is:

Thus, the next letter is D.

Hence, the correct answer is Option 1.

Q45. Answer: (a) HO

The logic followed here is:

So, the next term = HO

Hence, the correct answer is Option 1.

Q46. Answer: (a) WESJ

The logic followed here is:

So, the next term = WESJ

Hence, the correct answer is Option 1.

Q47. Answer: (a) 34

BODMAS Table:

Given equation: 7 + 5 × 3 − 2

Now, if '+' stands for '×', '×' stands for '−', and '−' stands for '+', then:

=> 7 × 5 − 3 + 2

=> 7 × 5 = 35

=> 35 − 3 + 2

=> 32 + 2 = 34

Hence, the correct answer is "Option 1".

Q48. Answer: (a) PQPQPQRPQ

The logic followed here is:

Logic: The letter R moves one position to the right in each successive term, while P and Q remain in their places.

Term	Position of R
PRQPQPQPQ	2
PQRPQPQPQ	3
PQPRQPQPQ	4
PQPQRQPQPQ	5
PQPQP RQPQ	6

Next, following the same pattern:

R moves to position 7 → PQPQPQRPQ

Hence, the correct answer is Option 1.

Q49. Answer: (d) KHRQ

The logic followed here is:

So, the missing cluster = KHRQ

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Hence, the correct answer is Option 4.

Q50. Answer: (c) YCM

The logic followed here is:

Final missing term = YCM

Hence, the correct answer is Option 3.

Q51. Answer: (b) 4% Loss

Shortcut Trick

When the Selling Price (SP) of two articles is the same, and one is sold at a gain of x% and the other at a loss of x%, the trader always incurs an overall loss.

Shortcut formula: Overall Loss % = $(x/10)^2$

Given the common percentage change x = 20.

=> Overall Loss % = $(20 / 10)^2 = 2^2 = 4\%$.

Therefore The correct answer is 4% Loss.

Alternate Method

Given: Selling Price (SP) of each article = Rs. 960, Profit% = 20%, Loss% = 20%.

Formula: Cost Price (CP) = SP × [100 / (100 ± Profit/Loss %)]

=> CP1 = 960 × (100 / 120) = Rs. 800

=> CP2 = 960 × (100 / 80) = Rs. 1200

=> Total CP = 800 + 1200 = Rs. 2000

=> Total SP = 960 + 960 = Rs. 1920

=> Net Loss = 2000 − 1920 = Rs. 80

=> Loss % = (80 / 2000) × 100 = 4%

&there4$ The correct answer is 4% Loss.

Additional Information

Net Percentage Change

For two successive percentage changes a% and b%, the net change is given by [a + b + (ab/100)]%. When a = +x and b = −x, it simplifies to $-x^2/100$.

CP Calculation Shortcut

Profit of 20% means SP = 1.2 × CP, so CP = SP ÷ 1.2. Loss of 20% means SP = 0.8 × CP, so CP = SP ÷ 0.8.

Overall Profit/Loss in Value

If SP is same and profit/loss % is x, Total Loss in Rupees = $[2 \times SP \times x^2] / [100^2 - x^2]$.

Q52. Answer: (d) 20.45%

Given:

Marked price = 550

Selling price = 350

First discount = 20%

Formula Used:

SP = MP × (1 - d1 ÷ 100) × (1 - d2 ÷ 100)

Calculation:

=> 350 = 550 × (1 - 20 ÷ 100) × (1 - d ÷ 100)

=> 350 = 550 × (4 ÷ 5) × (1 - d ÷ 100)

=> 350 = 440 × (1 - d ÷ 100)

=> 350 ÷ 440 = (1 - d ÷ 100)

=> 35 ÷ 44 = (1 - d ÷ 100)

=> d ÷ 100 = 1 - 35 ÷ 44 = 9 ÷ 44

=> d = (9 ÷ 44) × 100 = 900 ÷ 44 = 20.45

Therefore The correct answer is 20.45%.

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Q53. Answer: (c) 10.88%

Given:

Marked up = 32%

Discount = 16%

Formula Used:

SP = CP × (1 + markup ÷ 100) × (1 - discount ÷ 100)

Profit % = ((SP - CP) ÷ CP) × 100

Calculation:

=> SP = CP × (1 + 32 ÷ 100) × (1 - 16 ÷ 100)

=> = CP × (132 ÷ 100) × (84 ÷ 100)

=> = CP × (11088 ÷ 10000)

=> SP = CP × 1.1088

=> Profit = 1.1088CP - CP = 0.1088CP

=> Profit % = 0.1088 × 100 = 10.88

Therefore The correct answer is 10.88%.

Q54. Answer: (c) 54

Given:

Departments = 4

Average = 45

New department employees = 90

Transferred = 10 from each of 4 departments

Formula Used:

Total = Average × Number of departments

Average = Total ÷ Number of departments

Calculation:

=> Initial total = 45 × 4 = 180

=> New department total = 90

=> Total after adding = 180 + 90 = 270

=> Employees transferred = 10 × 4 = 40

=> New total remains = 270

=> New departments = 5

=> New average = 270 ÷ 5 = 54

Therefore The correct answer is 54.

Q55. Answer: (b) Rs. 3,365

Shortcut Trick

Apply the Successive Multiplier method for varying interest rates.

Multiplier for Year 1 (10%) = 1.1, Year 2 (12.5%) = 1.125, Year 3 (8%) = 1.08

Total Multiplier = 1.1 × 1.125 × 1.08 = 1.3365

Total Interest = Principal × (Total Multiplier − 1) = 10,000 × 0.3365 = Rs. 3,365

Therefore The correct answer is Rs. 3,365.

Alternate Method

Given:

Principal (P) = Rs. 10,000

Rate (Year 1) = 10%, Rate (Year 2) = 12.5%, Rate (Year 3) = 8%

Formula Used:

Amount (A) = P × (1 + r1/100) × (1 + r2/100) × (1 + r3/100)

Compound Interest (CI) = Amount − Principal

Calculations:

=> Amount at end of Year 1 = 10,000 × (110/100) = Rs. 11,000

=> Amount at end of Year 2 = 11,000 × (112.5/100) = 11,000 × (9/8) = Rs. 12,375

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=> Amount at end of Year 3 = 12,375 × (108/100) = 12,375 × (27/25) = Rs. 13,365

=> Total Interest = Final Amount − Initial Principal

=> Total Interest = 13,365 − 10,000 = Rs. 3,365

Therefore The correct answer is Rs. 3,365.

Additional Information

Compound Interest with Different Rates

When interest rates vary annually, the amount is calculated as A = P(1 + r1/100)(1 + r2/100)...(1 + r_n/100).

Fractional Equivalents for Speed

Using fractions like 12.5% = 1/8 (multiplier 9/8) and 8% = 2/25 (multiplier 27/25) simplifies the calculation of compound growth significantly.

Effective Percentage Rate

The total effective rate for successive percentages a%, b%, and c% is [(1 + a/100)(1 + b/100)(1 + c/100) − 1] × 100.

Q56. Answer: (b) 16641

Given:

Value: 129

Formula Used:

Square of a number = Number × Number

Calculation:

=> 129 × 129

=> 16641

Therefore The correct answer is 16641.

Q57. Answer: (c) 64

Given:

A perfect square between 50 and 70.

Formula Used:

A perfect square is a number that can be expressed as n^2, where n is an integer.

Calculation:

=> Checking perfect squares between 50 and 70:

=> 7^2 = 49 (not in range).

=> 8^2 = 64 (in range).

=> 9^2 = 81 (not in range).

Therefore The correct answer is 64.

Q58. Answer: (b) Rs. 10000

Given:

A invests 5000, adds 1000 after 6 months

B invests 4000, adds x after 6 months

Profit ratio = 11 : 18

Formula Used:

Profit prop. to Investment × Time

Calculation:

=> A's capital = 5000 × 6 + 6000 × 6 = 30000 + 36000 = 66000

=> B's capital = 4000 × 6 + (4000 + x) × 6 = 24000 + (4000 + x) × 6

=> = 24000 + 24000 + 6x = 48000 + 6x

=> 66000 ÷ (48000 + 6x) = 11 ÷ 18

=> 66000 × 18 = 11 × (48000 + 6x)

=> 1188000 = 528000 + 66x

=> 1188000 - 528000 = 66x

=> 660000 = 66x

=> x = 10000

Therefore The correct answer is 10000.

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Q59. Answer: (c) Rs. 45000

Given:
Investment by A = Rs. 30,000
Investment by B = Rs. 40,000
B joined after 5 months.
Total profit = Rs. 80,000
Formula Used:
Profit share ratio = (Investment × Time)
Individual profit = (Individual ratio ÷ Total ratio) × Total profit
Calculation:
=> Time for A = 12 months
=> Time for B = 12 − 5 = 7 months
=> Profit share ratio for A = Rs. 30,000 × 12 = Rs. 360,000
=> Profit share ratio for B = Rs. 40,000 × 7 = Rs. 280,000
=> Total ratio = Rs. 360,000 + Rs. 280,000 = Rs. 640,000
=> Share of A = (Rs. 360,000 ÷ Rs. 640,000) × Rs. 80,000
=> Share of A = (9 ÷ 16) × Rs. 80,000
=> Share of A = Rs. 45,000
Therefore The correct answer is Rs. 45,000.

Q60. Answer: (b) Rs. 200000

Given:
A's investment = Rs. 5000 for 12 months
B's investment = Rs. 4000 for 9 months
C's investment = Rs. 3000 for 6 months
Total profit = Rs. 380000
Formula Used:
Profit share prop. to Investment × Time
A's profit share = (A's investment × A's time) ÷ Total ratio × Total profit
Calculation:
=> A's ratio = Rs. 5000 × 12 = Rs. 60000
=> B's ratio = Rs. 4000 × 9 = Rs. 36000
=> C's ratio = Rs. 3000 × 6 = Rs. 18000
=> Total ratio = Rs. 60000 + Rs. 36000 + Rs. 18000 = Rs. 114000
=> A's profit share = (Rs. 60000 ÷ Rs. 114000) × Rs. 380000
=> A's profit share = (10 ÷ 19) × Rs. 380000
=> A's profit share = Rs. 200000
Therefore The correct answer is Rs. 200000.

Q61. Answer: (c) 3.6%

Shortcut Trick
For a 2D shape, if the linear dimension (radius) increases by x%, the area increases by [2x + (x²/100)]%.
Given x = 1.8%.
Net Increase = 1.8 + 1.8 + (1.8 × 1.8 / 100)
Net Increase = 3.6 + 0.0324 = 3.6324% ≈ 3.6%.
Therefore The correct answer is 3.6%.
Alternate Method
Given: Initial radius (r) = 24 cm, Percentage increase in radius = 1.8%.
Formula: Area of Circle (A) = πr².
=> Let the initial radius be r.
=> New radius (r') = r + 1.8% of r = 1.018r.
=> Initial Area (A1) = πr².

=> New Area (A2) = $\pi(1.018r)^2 = 1.036324 \times \pi r^2$.

=> Percentage Increase in Area = [(A2 − A1) / A1] × 100

=> Percentage Increase = $[(1.036324\pi r^2 - \pi r^2) / \pi r^2] \times 100$

=> Percentage Increase = (1.036324 − 1) × 100 = 3.6324%.

=> Approximate percentage increase = 3.6%.

Therefore The correct answer is 3.6%.

Additional Information

Successive Percentage Change

If a value changes by a% and then by b%, the net percentage change is given by (a + b + ab/100)%. For area calculation, a = b.

Linear vs Area vs Volume Change

If linear dimensions change by k%, the Perimeter changes by k%, Area changes by approximately 2k%, and Volume changes by approximately 3k% (for small values of k).

Binomial Approximation

For very small percentage changes x, $(1 + x)^n \approx 1 + nx$. In this case, $(1 + 0.018)^2 \approx 1 + 2 \times 0.018 = 1.036$.

Q62. Answer: (b) 336

Given:

x + y = 6

$x^2 + y^2 = 20$

Formula Used:

$(x + y)^2 = x^2 + y^2 + 2xy$

x^4 + y^4 = $(x^2 + y^2)^2 - 2x^2y^2$

Calculation:

=> $(x + y)^2 = 36 = 20 + 2xy$

=> 2xy = 16 => xy = 8

=> $x^2y^2 = 8^2 = 64$

=> x^4 + y^4 = $20^2 - 2\times64 = 400 - 128 = 272$

=> x^4 + x^2y^2 + y^4 = 272 + 64 = 336

Therefore The correct answer is 336.

Q63. Answer: (c) 279

Shortcut Trick

Use the algebraic identity $(a + b)^2 = (a - b)^2 + 4ab$, where a = 6m and b = 5n.

Given $(6m - 5n)^2 = 7$ and 4ab = 4(30mn) = 4 × 60 = 240.

=> $(6m + 5n)^2 = 7 + 240 = 247$.

From 30mn = 60, find 16mn = (60 ÷ 30) × 16 = 32.

Required value = 247 + 32 = 279.

Therefore The correct answer is 279.

Alternate Method

Given:

$(6m - 5n)^2 = 7$

30mn = 60

Formula Used:

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

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

Calculations:

=> $(6m - 5n)^2 = 36m^2 + 25n^2 - 60mn = 7$

=> $36m^2 + 25n^2 - 60 = 7$ (as 60mn = 2 × 30mn = 2 × 60 = 120, wait let us use direct substitution)

=> $36m^2 + 25n^2 - 2(30mn) = 7$

=> $36m^2 + 25n^2 - 2(60) = 7$

=> $36m^2 + 25n^2 = 7 + 120 = 127$

=> $(6m + 5n)^2 = 36m^2 + 25n^2 + 2(30mn)$

=> $(6m + 5n)^2 = 127 + 2(60) = 127 + 120 = 247$

=> $mn = 60 \div 30 = 2$

=> $16mn = 16 \times 2 = 32$

=> Required Expression = 247 + 32 = 279

Therefore The correct answer is 279.

Additional Information

Square of Sum and Difference Relation

The relationship between the square of a sum and a difference is given by $(a + b)^2 - (a - b)^2 = 4ab$.

Sum of Squares Identity

Adding the two basic identities results in $(a + b)^2 + (a - b)^2 = 2(a^2 + b^2)$.

BODMAS Rule

Always follow the order of Brackets, Orders (powers), Division, Multiplication, Addition, and Subtraction for simplification.

Q64. Answer: (a) 2/3

Given:

$\sec x - \tan x = 1 \div \sqrt{3}$

Formula Used:

$(\sec x - \tan x)(\sec x + \tan x) = 1$

Calculation:

=> $\sec x + \tan x = 1 \div (1 \div \sqrt{3}) = \sqrt{3}$

=> $\sec x = ((\sqrt{3} + 1 \div \sqrt{3}) \div 2)$

=> $\tan x = ((\sqrt{3} - 1 \div \sqrt{3}) \div 2)$

=> $\sec x \times \tan x = ((\sqrt{3} + 1 \div \sqrt{3})(\sqrt{3} - 1 \div \sqrt{3})) \div 4$

=> $= (3 - 1 \div 3) \div 4$

=> $= (8 \div 3) \div 4$

=> $= 2 \div 3$

Therefore The correct answer is $2 \div 3$.

Q65. Answer: (c) 1875

Given:

$x = 7\sin A + 24\cos A$

$y = 7\cos A - 24\sin A$

Formula Used:

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

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

$\sin^2 A + \cos^2 A = 1$

Calculation:

=> $x^2 = (7\sin A + 24\cos A)^2 = 49\sin^2 A + 336\sin A\cos A + 576\cos^2 A$

=> $y^2 = (7\cos A - 24\sin A)^2 = 49\cos^2 A - 336\sin A\cos A + 576\sin^2 A$

=> $x^2 + y^2 = (49 + 576)(\sin^2 A + \cos^2 A)$

=> $= 625 \times 1 = 625$

=> $3(x^2 + y^2) = 3 \times 625 = 1875$

Therefore The correct answer is 1875.

Q66. Answer: (c) 17.32 meters and 10 meters

Given:

Rope length = 20 m

Angle with ground = 60°

Formula Used:

Height = Hypotenuse × $\sin\theta$

Base = Hypotenuse × $\cos\theta$

Calculation:

=> Height = $20 \times \sin 60°$

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=> Height = 20 × (√3 ÷ 2)
=> Height = 10√3 ≈ 17.32 m
=> Base = 20 × cos60°
=> Base = 20 × (1 ÷ 2)
=> Base = 10 m
Therefore The correct answer is 17.32 m and 10 m.

Q67. Answer: (b) Rs. 293.67

Given:
Principal = z
SI rate = 13%
SI time = 4 years
CI rate = 12%
CI time = 2 years
Difference = 78
Formula Used:
Amount (SI) = Principal × (1 + Rate × Time ÷ 100)
Amount (CI) = Principal × (1 + Rate ÷ 100)^(Time)
Calculation:
=> Amount (SI) = z × (1 + 13 × 4 ÷ 100)
=> Amount (SI) = z × (1 + 52 ÷ 100) = z × 1.52
=> Amount (CI) = z × (1 + 12 ÷ 100)²
=> Amount (CI) = z × (1.12)²
=> Amount (CI) = z × 1.2544
=> z × 1.52 - z × 1.2544 = 78
=> z × (1.52 - 1.2544) = 78
=> z × 0.2656 = 78
=> z = 78 ÷ 0.2656
=> z = 293.67
Therefore The correct answer is 293.67.

Q68. Answer: (c) 12%

Given:
Principal = 7500
Time = 2 years
Difference (CI - SI) = 108
Formula Used:
Difference for 2 years = P × (r ÷ 100)²
Calculation:
=> 108 = 7500 × (r ÷ 100)²
=> 108 = 7500 × r² ÷ 10000
=> 108 = (3 ÷ 4) × r²
=> r² = 108 × (4 ÷ 3) = 144
=> r = 12
Therefore The correct answer is 12%.

Q69. Answer: (d) Rs. 1,986

Given:
Gaurav invests = x
Rate = 10%
Time = 3 years
Prem invests = 18000
Rate = 15%

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Time = 4 years
Prem interest = 2x - 1200
Formula Used:
SI = P × r × t ÷ 100
CI interest = P × [(1 + r ÷ 100)^n - 1]
Calculation:
=> Prem SI = 18000 × 15 × 4 ÷ 100 = 10800
=> 10800 = 2x - 1200
=> 2x = 12000
=> x = 6000
=> CI interest = 6000 × [(1 + 10 ÷ 100)^3 - 1]
=> = 6000 × [(11 ÷ 10)^3 - 1]
=> = 6000 × (1331 ÷ 1000 - 1)
=> = 6000 × (331 ÷ 1000)
=> = 1986
Therefore The correct answer is 1986.

Q70. Answer: (a) 36

Given:
Sum of three numbers = 144
Ratio of numbers = 3:4:5
Formula Used:
Total ratio = Sum of individual ratios
Value of each number = (Individual ratio ÷ Total ratio) × Sum of three numbers
Calculation:
=> Total ratio = 3 + 4 + 5 = 12
=> Smallest number = (3 ÷ 12) × 144
=> Smallest number = 3 × 12
=> Smallest number = 36
Therefore The correct answer is 36.

Q71. Answer: (c) 410/-

Given:
Price of A = 350
Price of B = 450
Ratio = 4 : 6
Formula Used:
Mean price = (a×x + b×y) ÷ (x + y)
Calculation:
=> Mean price = (350×4 + 450×6) ÷ (4 + 6)
=> = (1400 + 2700) ÷ 10
=> = 4100 ÷ 10
=> = 410
Therefore The correct answer is 410.

Q72. Answer: (c) 8 cups

Given:
Milk : Flour = 2 : 3
Flour used = 12
Formula Used:
Direct proportion
Calculation:
=> Milk ÷ Flour = 2 ÷ 3

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=> Milk ÷ 12 = 2 ÷ 3
=> Milk = 12 × (2 ÷ 3) = 24 ÷ 3 = 8
Therefore The correct answer is 8.

Q73. Answer: (d) 18 km/h

Given:
Time for P to cross pole = 8 s
Speed of P = 54 km/h
Time to cross each other = 15 s
Length ratio P : Q = 2 : 3
Formula Used:
Distance = Speed × Time
Relative speed = Sum of speeds (opposite direction)
Calculation:
=> Speed of P = 54 × 5 ÷ 18 = 15 m/s
=> Length of P = 15 × 8 = 120 m
=> Length ratio 2 : 3 => Length of Q = 120 × 3 ÷ 2 = 180 m
=> Total distance = 120 + 180 = 300 m
=> Relative speed = 300 ÷ 15 = 20 m/s
=> Speed of Q = 20 - 15 = 5 m/s
=> Speed of Q = 5 × 18 ÷ 5 = 18 km/h
Therefore The correct answer is 18 km/h.

Q74. Answer: (c) 250 seconds

Given:
Initial distance = 2000 m
Speed of policeman = 20 m/s
Speed of thief = 12 m/s
Formula Used:
Relative speed = Difference of speeds
Time = Distance ÷ Relative speed
Calculation:
=> Relative speed = 20 - 12 = 8 m/s
=> Time = 2000 ÷ 8 = 250 s
Therefore The correct answer is 250 seconds.

Q75. Answer: (d) Rs. 1122.28

Given:
First discount = 12.5%
Second discount = 20%
Tax = 18%
Final price = Rs. 927
Formula used:
Net multiplier = (1 − discount) × (1 + tax)
Calculations:
After 12.5% discount
=> Remaining = 7/8
After 20% discount
=> Remaining = 4/5
Total after discount
=> 7/8 × 4/5 = 28/40 = 7/10
After 18% tax
=> 7/10 × 118/100 = 826/1000 = 0.826

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Let original price = x

=> x × 0.826 = 927

=> x = 927 ÷ 0.826

=> x = 1122.28 (approx)

Therefore Original price ≈ Rs. 1122.28

Q76. Answer: (a) Only I

The correct answer is 1.

Key Points

• Part VIII of the Indian Constitution deals with Union Territories. It includes Articles 239 to 242, which provide the framework for the administration of Union Territories. Hence, Statement I is correct.

• Part IX of the Indian Constitution is dedicated to the Panchayati Raj system. It includes Articles 243 to 243-O and primarily focuses on the governance of rural areas through local self-government institutions like Panchayats. Hence, Statement II is incorrect.

• Part IX-B, inserted through the 97th Constitutional Amendment Act (2011), specifically deals with Co-operative Societies. It includes Articles 243-ZH to 243-ZT. Therefore, the reference to Part IX for Co-operative Societies in the question is misplaced. Hence, Statement II is incorrect.

• As both statements are evaluated, it is clear that only Statement I is correct, making Option 1 the correct answer.

Additional Information

• Union Territories:

• India currently has 8 Union Territories: Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli and Daman and Diu, Lakshadweep, Delhi, Puducherry, Jammu and Kashmir, and Ladakh.

• Union Territories are directly governed by the President of India through administrators appointed by him.

• Some Union Territories, like Delhi and Puducherry, have legislatures and enjoy partial statehood under special provisions.

• 97th Constitutional Amendment Act:

• It introduced Part IX-B to the Constitution, focusing on Co-operative Societies.

• This amendment aimed at promoting the voluntary formation, autonomous functioning, democratic control, and professional management of co-operative societies.

• It includes provisions to ensure transparency, accountability, and periodic elections for the management of co-operatives.

• Panchayati Raj System:

• Part IX was introduced through the 73rd Constitutional Amendment Act (1992).

• It ensures the establishment of a three-tier system of Panchayati Raj institutions in rural India: Gram Panchayat (village level), Block Panchayat (block level), and District Panchayat (district level).

• It provided for the reservation of seats for Scheduled Castes, Scheduled Tribes, and women in Panchayats.

• Key Articles to Remember:

• Article 239: Administration of Union Territories.

• Article 243: Definitions for Panchayati Raj system.

• Article 243-ZH: Definitions for Co-operative Societies under Part IX-B.

Important Points

• Union Territories with Legislatures:

• Delhi: National Capital Territory with its own legislative assembly and Chief Minister.

• Puducherry: Union Territory with a legislative assembly and Chief Minister.

• Co-operative Societies:

• They play a crucial role in promoting economic development, especially in rural areas.

• Examples include dairy co-operatives like Amul and banking co-operatives like Urban Cooperative Banks.

• Panchayati Raj Milestones:

• First Panchayat established in Nagaur, Rajasthan in 1959.

• The 73rd Amendment provided constitutional status to Panchayati Raj institutions.

Q77. Answer: (a) 2027

The correct answer is 2027.

Key Points

• Kaladan Multimodal Transit Transport Project: The Kaladan project is a multimodal transport initiative connecting India and Myanmar to enhance regional connectivity and promote economic collaboration. The project involves waterways, roadways, and

ports.

• Union Minister Sarbananda Sonowal announced in July 2025 that the Kaladan project would be operational by 2027, ensuring streamlined trade and transit between India and Myanmar.

• The Kaladan project is significant for the northeast region of India, as it provides an alternative route to connect to the port in Myanmar, bypassing the chicken neck corridor and enhancing trade and strategic access.

• The project is being developed under the Act East Policy, aimed at improving India's connectivity with Southeast Asia and enhancing diplomatic and economic ties.

• The project includes the construction of a sea route from Kolkata to Sittwe Port in Myanmar, inland water transport, and the development of a road link to connect the port to Mizoram in India.

Additional Information

• Kaladan Project Overview:

• The Kaladan project was initiated in 2008 as part of India's strategic outreach to Myanmar and Southeast Asia.

• The project includes a 539 km multimodal transport network, consisting of waterways and roadways. This network helps in reducing dependency on the narrow Siliguri Corridor.

• Key Components: The project involves constructing a port at Sittwe in Myanmar, an inland water transport system on the Kaladan River, and a road link to the India-Myanmar border.

• Strategic Importance:

• The Kaladan project strengthens India’s Act East Policy, which focuses on improving relations with ASEAN countries.

• It enhances connectivity for the northeastern states of India, promoting economic development and integration into the regional economy.

• It offers a secure and alternate trade route, reducing vulnerability associated with the Siliguri Corridor.

• Economic Implications:

• The project will boost trade and commerce between India and Myanmar and serve as a gateway for Indian goods into Southeast Asia.

• It is expected to reduce transportation costs and time for goods, enhancing the competitiveness of Indian exports.

• Local industries in the northeastern states will benefit from improved connectivity and access to international markets.

• Challenges:

• Delays in project implementation due to political instability in Myanmar and logistical issues.

• Environmental concerns related to construction activities and their impact on the Kaladan River ecosystem.

• Ensuring security in the region, as parts of the route pass through areas with insurgency and unrest.

Important Points

• Act East Policy:

• India’s Act East Policy was launched in 1991 to promote economic and strategic cooperation with Southeast Asia.

• It emphasizes enhancing connectivity, trade, and cultural ties with ASEAN countries.

• India-Myanmar Relations:

• Myanmar is a strategic neighbor for India, sharing a 1,643 km border with several northeastern states.

• Cooperation with Myanmar is vital for addressing cross-border security challenges, including insurgency and smuggling.

• Infrastructure Development:

• The Kaladan project contributes to India’s efforts to improve regional infrastructure and connectivity, enhancing trade and investment opportunities.

• It complements other initiatives like the India-Myanmar-Thailand Trilateral Highway, aimed at connecting India with Southeast Asia.

Q78. Answer: (a) Australia

The correct answer is Australia.

Key Points

• The East Asia Summit (EAS) is a regional forum established in 2005 for strategic dialogue and cooperation on political, security, and economic issues in the Indo-Pacific region.

• Australia is a member of the East Asia Summit process, along with other nations such as ASEAN members, China, Japan, South Korea, India, New Zealand, Russia, and the United States.

• The summit focuses on areas including economic growth, energy security, environment, disaster management, education, and connectivity.

• Countries like UAE, Saudi Arabia, Brazil, and others are not members of the East Asia Summit process, as it is primarily limited to nations in the Indo-Pacific region.

• The EAS functions as a platform where member states collaborate on regional and global challenges, promoting stability and prosperity in the region.

Additional Information

• East Asia Summit Membership:

• The EAS includes 18 countries, which are the 10 ASEAN countries (Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, Cambodia), along with Australia, China, India, Japan, New Zealand, South Korea, Russia, and the United States.

• Membership is limited to countries that significantly influence the Indo-Pacific region's political and economic dynamics.

• Key Objectives of the East Asia Summit:

• Promoting regional stability and fostering peaceful cooperation among member nations.

• Enhancing collaboration in areas like trade, investment, education, disaster management, and energy security.

• Addressing emerging challenges in the region, such as climate change, maritime security, and counter-terrorism.

• Australia’s Role in EAS:

• Australia has been an active participant in the summit since its inception, advocating for regional integration, stability, and sustainable development.

• It emphasizes cooperation on critical issues such as economic development, energy security, maritime security, and disaster response.

• Australia also focuses on strengthening ties with ASEAN nations and promoting the rules-based order in the Indo-Pacific.

• Non-Members:

• Countries like the United Arab Emirates (UAE), Saudi Arabia, Brazil, and others are not members of the EAS as they do not fall within the Indo-Pacific geographical or strategic domain.

• These nations engage in other regional or global platforms relevant to their respective geographies and interests, such as the Gulf Cooperation Council (GCC), BRICS, or the United Nations.

Important Points

• History of EAS:

• The East Asia Summit was formally established in December 2005 in Kuala Lumpur, Malaysia.

• It was initiated by ASEAN to include major global powers in discussions about regional and global issues.

• Annual Meetings:

• The EAS convenes annually, with leaders from member states discussing pressing regional and international concerns.

• Recent summits have focused on issues such as COVID-19 recovery, digital economy, and climate action.

• Significance of ASEAN:

• ASEAN is the central coordinating body for the EAS, ensuring that the summit aligns with its regional integration and development goals.

• ASEAN’s emphasis on consensus-based decision-making ensures that all member nations actively contribute to the summit’s outcomes.

• Australia’s Strategic Interests:

• Australia’s membership in the EAS aligns with its broader Indo-Pacific strategy, emphasizing regional security, economic growth, and multilateral cooperation.

• The country actively supports initiatives like energy transition, climate resilience, and capacity building among EAS members.

Q79. Answer: (a) Abdul Ghaffar Khan

The correct answer is Abdul Ghaffar Khan.

Key Points

• Abdul Ghaffar Khan, also known as Badshah Khan or the Frontier Gandhi, was a prominent freedom fighter and a close associate of Mahatma Gandhi.

• He was born on 6 February 1890, in the North-West Frontier Province (NWFP), now in Khyber Pakhtunkhwa, Pakistan.

• Abdul Ghaffar Khan founded the Khudai Khidmatgar (Servants of God) movement, also known as the Red Shirt Movement, to promote nonviolent resistance against British rule.

• He was a staunch advocate of Hindu-Muslim unity and followed the principles of nonviolence (Ahimsa) inspired by Mahatma Gandhi.

• For his efforts in the Indian independence movement, he earned the title of the Frontier Gandhi due to his leadership in the frontier regions and his adoption of Gandhian principles.

• He was the first non-Indian to receive the Bharat Ratna, India’s highest civilian award, in 1987.

Additional Information

• Khudai Khidmatgar Movement:

• This movement, founded by Abdul Ghaffar Khan in the 1920s, was aimed at social reform and nonviolent resistance against British colonial rule.

• The members of the movement wore distinctive red shirts and were committed to serving society and promoting peace.

• The movement played a significant role in organizing protests and campaigns in the North-West Frontier Province during the freedom struggle.

• Hindu-Muslim Unity:

• Abdul Ghaffar Khan believed strongly in the idea of a united India where Hindus and Muslims could coexist peacefully.

• He worked closely with leaders like Mahatma Gandhi and opposed the partition of India in 1947.

• Nonviolence and Gandhian Ideals:

• Inspired by Gandhian principles of nonviolence, Abdul Ghaffar Khan propagated peace and civil disobedience as tools for achieving independence.

• He believed that true strength lay in moral courage and the ability to endure hardship without resorting to violence.

• Recognition and Legacy:

• Abdul Ghaffar Khan's commitment to nonviolence earned him respect not only in India but across the world.

• In 1987, he was awarded the Bharat Ratna for his contributions to India’s independence and his advocacy for peace.

• Today, he is remembered as a symbol of peace, courage, and unity.

Important Points

• Other Options Explained:

• Ashfaqulla Khan: He was a revolutionary freedom fighter associated with the Kakori Train Robbery, not the Frontier Gandhi.

• Zakir Husain Khan: He was the third President of India and a prominent educationist, not associated with the title "Frontier Gandhi."

• Hakim Ajmal Khan: He was a renowned physician and freedom fighter but not referred to as the Frontier Gandhi.

Q80. Answer: (a) Cherukumalli Srinivasa Rao

The correct answer is Cherukumalli Srinivasa Rao.

Key Points

• Cherukumalli Srinivasa Rao has been appointed as the Director of the Indian Agricultural Research Institute (IARI) in December 2024.

• The Indian Agricultural Research Institute (IARI) is a premier national institute for agricultural research, education, and extension under the Indian Council of Agricultural Research (ICAR).

• Dr. Rao is a distinguished agricultural scientist with expertise in genetics, crop improvement, and sustainable agriculture practices.

• He has contributed significantly to the development of high-yielding and climate-resilient crop varieties, enhancing food security in India.

• The appointment of Dr. Rao aligns with the government’s aim to strengthen agricultural research and innovation for sustainable development in the sector.

Additional Information

• Indian Agricultural Research Institute (IARI):

• The IARI, popularly known as the Pusa Institute, is headquartered in New Delhi.

• It was established in 1905 and has been pivotal in spearheading the Green Revolution in India.

• The institute focuses on crop improvement, resource management, and agricultural engineering.

• It operates under the Indian Council of Agricultural Research (ICAR), which is the apex body for coordinating agricultural education and research in India.

• Contributions of Dr. Cherukumalli Srinivasa Rao:

• Dr. Rao has extensive experience in plant breeding and genetics, specializing in developing improved crop varieties.

• He has worked on innovative approaches to address challenges like climate change, pests, and diseases in agriculture.

• His research has significantly contributed to enhancing the productivity and sustainability of Indian agriculture.

• Indian Council of Agricultural Research (ICAR):

• ICAR is an autonomous organization under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare.

• It was established on 16 July 1929, and its headquarters are in New Delhi.

• ICAR is responsible for coordinating, guiding, and managing agricultural research and education in India.

• Significance of Agricultural Research:

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• Agricultural research institutions like IARI play a critical role in ensuring food security for a growing population.
• Research on climate-resilient crops helps mitigate the impacts of climate change on agriculture.
• Innovations in sustainable farming practices contribute to environmental conservation and resource efficiency.

Important Points

• Key Achievements of IARI:
• The development of high-yielding varieties of rice and wheat that were instrumental in the Green Revolution.
• Contributions to the development of agro-technologies for enhancing crop productivity and sustainability.
• Research on biofortification to address malnutrition through nutrient-enriched crops.
• Future Goals:
• Strengthening research on climate-resilient agriculture to tackle challenges posed by global warming.
• Enhancing collaboration with international agricultural research organizations for knowledge exchange.
• Promoting the adoption of advanced technologies like genomics, precision farming, and artificial intelligence in agriculture.
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Q81. Answer: (b) 5

The correct answer is 2.

Key Points

• The PM-YASASVI Scheme stands for the Pradhan Mantri Yashasvi Scholarship Scheme, launched by the Government of India to provide financial assistance to economically weaker students belonging to specific categories.
• Under the PM-YASASVI Scheme, there are two sub-schemes specifically designed to address the needs of students from backward communities, ensuring that they receive adequate support for their education.
• The two sub-schemes are:
• Top Class School Scholarship Scheme: This scheme focuses on providing scholarships to students studying in reputed schools.
• Top Class College Scholarship Scheme: This sub-scheme supports students pursuing higher education in top-tier institutions.
• The scheme primarily targets the Other Backward Classes (OBC), Economically Backward Classes (EBC), and Denotified, Nomadic, and Semi-Nomadic Tribes (DNTs).
• The scholarships aim to promote social equity and ensure that financial constraints do not hinder the academic aspirations of meritorious students.

Additional Information

• Eligibility Criteria:
• The scheme is open to students belonging to OBC, EBC, and DNT categories.
• The annual family income of the applicants must not exceed Rs. 2.5 lakh.
• Students must have secured admission in recognized schools or colleges under the specified sub-schemes.
• Key Features:
• Scholarships cover tuition fees, living expenses, and other educational costs.
• It encourages students to pursue higher education without the burden of financial constraints.
• The scheme promotes inclusive development by supporting marginalized communities.
• Implementation:
• The scheme is implemented through the National Testing Agency (NTA), which conducts a qualifying examination for applicants.
• Scholarship funds are directly transferred to the beneficiaries' accounts via the Direct Benefit Transfer (DBT) mechanism.
• Important Sub-schemes:
• Top Class School Scholarship Scheme: Provides financial assistance to students in classes 9 and 10 for their education and related expenses.
• Top Class College Scholarship Scheme: Supports students pursuing undergraduate, postgraduate, or professional courses in reputed institutions.

Important Points

• Focus on Social Equity: The scheme ensures that students from economically weaker sections of society have equal opportunities for education.
• Merit-Based Selection: The scholarships are awarded based on the performance of students in the qualifying examinations conducted by the NTA.
• Government Commitment: The PM-YASASVI Scheme reflects the Indian government’s commitment to promoting education for all, especially for underprivileged sections.
• Digital Infrastructure: The scheme leverages technology for application, selection, and fund disbursal processes, ensuring transparency and efficiency.

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Q82. Answer: (a) Ministry of Science & Technology

The correct answer is Ministry of Science & Technology.

Key Points

• The Bio-RIDE Scheme was approved in September 2024 to foster innovation and research in the field of biotechnology.

• The nodal ministry responsible for this scheme is the Ministry of Science & Technology, which oversees the research and development initiatives in scientific and technological areas in India.

• This scheme aims to promote biotechnology-driven research and innovation, particularly in areas such as healthcare, agriculture, and environmental sustainability.

• The Ministry of Science & Technology is tasked with policy formulation, funding, and ensuring the successful implementation of the Bio-RIDE Scheme.

• The scheme aligns with the broader government agenda of strengthening India's position as a global hub for biotechnological advancements and innovation.

Additional Information

• Ministry of Science & Technology:

• The Ministry of Science & Technology is one of the key ministries of the Government of India and is responsible for the advancement of science, technology, and innovation in the country.

• It comprises three departments: Department of Science & Technology (DST), Department of Biotechnology (DBT), and Department of Scientific and Industrial Research (DSIR).

• The Department of Biotechnology (DBT) within this ministry focuses specifically on biotechnology, including the development of new technologies and fostering innovation.

• It supports various programs and schemes aimed at capacity building, R&D, and innovation in the field of biotechnology.

• Other Relevant Ministries (Incorrect Options):

• Ministry of Health & Family Welfare: Primarily focuses on public health policies, health infrastructure, and healthcare services. It is not directly involved in R&D innovation schemes like Bio-RIDE.

• Ministry of New and Renewable Energy: Concerned with the development and promotion of renewable energy sources such as solar, wind, and biomass energy.

• Ministry of Education: Responsible for policies related to education at various levels, including school and higher education, but not directly connected to biotechnology innovation programs.

• Key Objectives of Bio-RIDE Scheme:

• To promote cutting-edge research in biotechnology.

• To encourage the development of indigenous technologies in healthcare, agriculture, and environmental sectors.

• To provide financial and infrastructural support to research institutions and startups in the field of biotechnology.

• Significance of Biotechnology:

• Biotechnology plays a crucial role in addressing global challenges such as climate change, food security, and public health.

• India is emerging as a global leader in biotechnology, with initiatives like the Bio-RIDE Scheme further strengthening its position.

Q83. Answer: (c) Rahul Dravid

The correct answer is Rahul Dravid.

Key Points

• Rahul Dravid, known as "The Wall" of Indian cricket, is one of the most respected figures in the cricketing world.

• He became the head coach of the Indian men's cricket team in November 2021, succeeding Ravi Shastri.

• Under his coaching, India has focused on nurturing young talent and building a strong bench strength across all formats.

• Rahul Dravid has previously worked as the head coach of the India Under-19 and India A teams, where he played a pivotal role in grooming future stars such as Shubman Gill, Rishabh Pant, and Prithvi Shaw.

• India's performance in international tournaments under Rahul Dravid's coaching has been closely monitored, with a focus on achieving consistency and strategic gameplay.

Additional Information

• Rahul Dravid’s Career:

• Rahul Dravid played for India from 1996 to 2012, scoring over 24,000 runs in international cricket.

• He is regarded as one of the greatest batsmen in cricket history, with 13,288 runs in Test cricket and 10,889 runs in ODIs.

• Dravid captained India from 2005 to 2007, leading the team to several notable victories.

• His calm demeanor and analytical approach to cricket earned him the nickname "The Wall."

• Coaching Philosophy:

• Rahul Dravid emphasizes building a team culture that values discipline, teamwork, and resilience.

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• He focuses on long-term development, ensuring young players are prepared for the pressures of international cricket.
• Dravid's coaching approach involves data-driven strategies and a deep understanding of player psychology.
• Role in India Under-19 and India A Teams:
• As the coach of the India Under-19 team, Rahul Dravid led the team to victory in the 2018 ICC Under-19 Cricket World Cup.
• He worked extensively with emerging players, identifying and nurturing talent at the grassroots level.
• Several players groomed under Dravid's guidance are now integral to India's senior team.
• Achievements as Indian Head Coach:
• Under his leadership, India has maintained its dominance in bilateral series across formats.
• Dravid has focused on rotating players to manage workload and maintain team fitness.
• India's preparation for global tournaments, including the ICC Men's T20 World Cup 2024, has been methodical under Dravid's guidance.

Important Points

• Other Coaches in International Cricket:
• Jonathan Trott: Former England batsman, currently coaching the Afghanistan cricket team.
• Andrew McDonald: Head coach of the Australian cricket team, known for his tactical acumen.
• Rob Walter: Head coach of the South African cricket team, focusing on rebuilding the squad.
• Impact of Coaching:
• A head coach's role is crucial in shaping the team's strategy, morale, and overall performance.
• Rahul Dravid's experience as a player and coach has been instrumental in India's cricketing success.

Q84. Answer: (d) 1964

The correct answer is 1964.

Key Points

• Volleyball made its Olympic debut during the 1964 Summer Olympics, which were held in Tokyo, Japan.
• The inclusion of volleyball in the Olympics was a result of its growing popularity as a sport worldwide.
• The International Olympic Committee (IOC) officially approved volleyball as an Olympic sport in 1957, during an IOC session in Sofia, Bulgaria.
• Both men's and women's volleyball tournaments were introduced in the same year (1964), making it a significant milestone for the sport.
• In its debut, the Soviet Union men's team won the gold medal, while the Japan women's team secured the gold in the women's category.

Additional Information

• History of Volleyball:
• The sport of volleyball was invented by William G. Morgan in 1895 in the United States. It was originally called "Mintonette."
• It was designed as a less physically intense alternative to basketball, making it suitable for older participants.
• The first international competition was held in 1913 at the Far Eastern Games in Manila.
• Evolution of Volleyball:
• In 1947, the Fédération Internationale de Volleyball (FIVB) was established as the sport's governing body.
• The first FIVB Men's World Championship was held in 1949, followed by the Women's World Championship in 1952.
• Beach volleyball, a variation of the traditional game, was later included in the Olympics in 1996.
• Significance of the 1964 Olympics for Volleyball:
• The 1964 Olympics marked the first time volleyball gained a global platform, significantly boosting its popularity worldwide.
• Japan, being the host country, played a pivotal role in promoting the sport, particularly in the women's category.
• The competition format included a round-robin system, emphasizing fair play and skill over elimination games.
• Modern-Day Volleyball in the Olympics:
• Since its debut, volleyball has been a regular feature in every Summer Olympics.
• Countries like Brazil, the Soviet Union (later Russia), and the United States have consistently dominated the sport.
• In recent years, innovations like advanced scoring systems (rally point scoring) and dynamic gameplay have further enhanced its appeal.

Important Points

• Options Analysis:
• 1958: Incorrect, as volleyball had not yet been approved as an Olympic sport by this time.
• 1960: Incorrect, as volleyball was not included in the Rome Olympics.

• 1962: Incorrect, as this year did not feature any Olympics.
• 1964: Correct, as volleyball officially debuted in the Tokyo Olympics.
• Impact of Volleyball's Inclusion:
• It showcased the growing international appeal of the sport.
• The event provided a platform for athletes from various countries to compete at the highest level.
• It further inspired the development of national-level volleyball programs in numerous countries.

Q85. Answer: (a) India

The correct answer is India.

• The Men's Asia Cup Hockey Tournament is one of the most prestigious hockey tournaments held in Asia, organized by the Asian Hockey Federation.
• In the year 2025, the tournament was hosted by Bangladesh, which has increasingly become a popular venue for international sports events.
• Bangladesh has previously hosted various international hockey tournaments, demonstrating its commitment to promoting hockey in the region.
• The tournament attracts major hockey teams from Asia, including India, Pakistan, South Korea, Malaysia, Japan, and China, among others.
• Bangladesh's capital city, Dhaka, often serves as the venue for such high-profile events due to its well-equipped stadiums and infrastructure.
• The hosting of the Men's Asia Cup in Bangladesh is an important milestone for the country's efforts to strengthen its position in the international hockey arena.

Additional Information

• Men's Asia Cup Hockey:
• The tournament was first introduced in 1982, with the goal of promoting hockey within the Asian continent.
• It is held every four years under the supervision of the Asian Hockey Federation (AHF).
• India has been one of the most successful teams in the Asia Cup, winning multiple titles over the years.
• The tournament serves as a qualifying event for the Men's Hockey World Cup, adding to its significance.
• Countries like Pakistan and South Korea have historically been strong contenders in the tournament.
• Bangladesh as a Sporting Hub:
• Bangladesh has hosted several international sports tournaments, including cricket, football, and hockey.
• The Maulana Bhasani Hockey Stadium in Dhaka is often the primary venue for hockey events in the country.
• The country has worked towards developing its sports infrastructure to attract more global sporting events.
• Hosting tournaments like the Men's Asia Cup aligns with Bangladesh's efforts to promote sports tourism and its national sports culture.
• Asian Hockey Federation (AHF):
• The AHF is the governing body for hockey in Asia, established in 1958.
• It aims to promote and develop hockey within member countries through tournaments and training programs.
• The federation includes 31 member nations, including India, Pakistan, Japan, Malaysia, and Bangladesh.
• The AHF organizes major tournaments like the Men's Asia Cup, Women's Asia Cup, and the Asian Champions Trophy.
• Importance of the Asia Cup:
• The tournament provides a platform for Asian teams to showcase their skills and compete at an elite level.
• It serves as a preparatory ground for global events like the Olympics and World Cup.
• The Asia Cup helps in identifying emerging talent and nurturing future hockey stars from the region.
• It fosters regional cooperation and camaraderie through sports.

Important Points

• Hockey in Bangladesh: Bangladesh is actively working to improve its hockey infrastructure and has been participating in various international tournaments.
• Regional Development: The hosting of the Asia Cup demonstrates Bangladesh's commitment to promoting hockey and strengthening sports culture in the region.
• Role of AHF: The Asian Hockey Federation plays a significant role in organizing tournaments and fostering hockey development across Asia.
• Global Impact: The Men's Asia Cup serves as a stepping stone for Asian teams to compete in international hockey tournaments, enhancing their global standing.

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Q86. Answer: (d) Dwaram Venkataswamy Naidu

The correct answer is Dwaram Venkataswamy Naidu.

Key Points

• Dwaram Venkataswamy Naidu was one of the most celebrated violinists from Andhra Pradesh, known for his contributions to Indian classical music.

• He was born in 1908 in Andhra Pradesh and became a pioneer in adapting the violin for Carnatic music performances.

• Naidu was highly respected for his mastery in playing the violin and his ability to evoke profound emotions in his renditions.

• His performances showcased a unique blend of technical precision and emotional depth, earning him the title of "Sangeeta Kalanidhi" by the Madras Music Academy in 1941.

• He also served as the principal of the Government College of Music and Dance, Vijayawada, where he mentored numerous students in music.

• Naidu's contributions have made him a cultural icon, and he remains an inspiration for aspiring musicians in Andhra Pradesh and across India.

Additional Information

• U. Srinivas:

• U. Srinivas was a prodigious mandolin player from Andhra Pradesh, renowned for his innovation in using the mandolin for Carnatic music.

• He began performing at a very young age and gained international recognition for his style and technique.

• Although he made significant contributions to Indian music, he was not primarily a violinist.

• Chitti Babu:

• Chitti Babu was a famous veena player from Andhra Pradesh, known for his mastery in Carnatic music.

• He was awarded the prestigious Padma Shri in 1977.

• While he made remarkable contributions to Indian classical music, he was not associated with playing the violin.

• Sheik Chinna Moulana:

• Sheik Chinna Moulana was a legendary nadaswaram player from Andhra Pradesh, celebrated for his expertise in Carnatic music.

• He was known for his performances at temple festivals and religious ceremonies.

• His contributions were primarily in the realm of nadaswaram, not the violin.

• Important Points:

• The violin was introduced to Indian classical music in the 18th century and has since become an integral part of Carnatic music performances.

• Musicians like Dwaram Venkataswamy Naidu were instrumental in adapting the violin to suit the unique requirements of Indian classical music.

• Naidu's work has paved the way for generations of violinists, making him a key figure in the history of Indian classical music.

• His contributions are celebrated not only in Andhra Pradesh but across India, establishing him as a cultural and musical icon.

Q87. Answer: (b) Arundhati Roy

The correct answer is Arundhati Roy.

Key Points

• Arundhati Roy is the author of the novel 'The God of Small Things', which won the prestigious Booker Prize in 1997.

• The book is a semi-autobiographical work set in the southern Indian state of Kerala and explores themes of family, love, caste, and politics.

• 'The God of Small Things' is Roy's debut novel and received international acclaim for its lyrical prose and intricate narrative structure.

• The novel is considered a modern classic and has been translated into more than 40 languages, making it one of the most celebrated works of contemporary Indian literature.

• Arundhati Roy is also known for her activism and political commentary, focusing on issues such as environmental justice, human rights, and social inequality.

Additional Information

• About 'The God of Small Things':

• The novel is centered around the lives of fraternal twins, Rahel and Estha, and their dysfunctional family in the fictional village of Ayemenem in Kerala.

• It delves into themes like forbidden love, societal norms, and the impact of historical and political events on individual lives.

• The book's narrative style is nonlinear, with frequent shifts in time and perspective, adding depth to the storytelling.

• Arundhati Roy's Literary Contributions:

• Besides 'The God of Small Things,' Roy has authored several non-fiction works, including 'The Algebra of Infinite Justice' and 'Capitalism: A Ghost Story.'

• Her second novel, 'The Ministry of Utmost Happiness', was published in 2017 and was longlisted for the Man Booker Prize.

• Recognition and Awards:

• Roy received the Booker Prize in 1997, making her the first Indian woman to win this prestigious literary award.

• She has also been honored with the Norman Mailer Prize for Distinguished Writing and the Sydney Peace Prize for her advocacy work.

• Other Options Explained:

• Ruskin Bond: An acclaimed Indian author known for his works like 'The Room on the Roof' and 'The Blue Umbrella'. He writes primarily for children and young adults.

• R.K. Narayan: Renowned for creating the fictional town of Malgudi and his novels like 'Swami and Friends' and 'The Guide'. His works often explore Indian middle-class life.

• Mulk Raj Anand: A pioneer of Indian-English literature, known for socially conscious novels like 'Untouchable' and 'Coolie.'

Important Points

• Booker Prize:

• The Booker Prize is one of the most prestigious literary awards in the world, awarded annually for the best original novel written in the English language.

• In 1997, Arundhati Roy became the first Indian woman to win this award, bringing global recognition to Indian literature.

• Kerala as a Setting:

• The novel beautifully captures the lush landscapes and cultural intricacies of Kerala, including its caste dynamics and Syrian Christian community.

• This setting plays a crucial role in shaping the narrative and its underlying themes.

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Q88. Answer: (c) 4

The correct answer is 4.

Key Points

• Natya Shastra, a foundational text of Indian performing arts, was written by Bharat Muni. It covers various aspects of dance, drama, and music.

• In the Natya Shastra, musical instruments were classified into four main groups, which are:

• Ghana Vadya: Instruments that produce sound through solid materials such as cymbals and bells.

• Avanaddha Vadya: Percussion instruments with membranes, like drums.

• Sushira Vadya: Wind instruments, such as flutes and horns.

• Tata Vadya: String instruments, like the veena and sitar.

• This classification by Bharat Muni has been considered as a scientific approach to categorizing musical instruments based on their mode of sound production.

• The Natya Shastra not only defines the nature and usage of these instruments but also outlines their significance in theatrical performances and rituals.

• Hence, the correct answer is 4.

Additional Information

• Natya Shastra:

• It is an ancient Sanskrit text attributed to Bharat Muni, believed to have been written between 200 BCE and 200 CE.

• It consists of 36 chapters and is regarded as the oldest treatise on dramaturgy and performing arts.

• The text covers various aspects of drama, including acting, stage design, costumes, makeup, and music.

• The Natya Shastra emphasizes the concept of Rasa, which refers to the aesthetic experience evoked in the audience.

• Musical Instrument Classification:

• Classification in the Natya Shastra is one of the earliest systematic approaches to categorizing musical instruments.

• It is based on the physical principle of sound production, which remains relevant even in modern musical studies.

• Examples of the four categories include:

• Ghana Vadya: Cymbals, gongs.

• Avanaddha Vadya: Tabla, mridangam.

• Sushira Vadya: Bansuri (flute), shehnai.

• Tata Vadya: Veena, sitar.

• Importance of Music in Natya Shastra:

• Music is integral to the performing arts described in the Natya Shastra, enhancing the emotional and aesthetic impact of theatrical productions.

• It provides guidelines on musical scales, notes, and rhythms, which are essential for orchestrating performances.

• The text also explains the connection between music and dance, highlighting their complementary roles in conveying Rasa to the audience.

Important Points

• Historical Context: The Natya Shastra is considered a landmark text in Indian cultural history and has influenced classical music, dance, and drama for centuries.

• Modern Relevance: The classification system introduced by Bharat Muni is still used in the study of Indian classical music and instrument design.

• Integration: The principles laid out in the Natya Shastra are deeply integrated into the practices of various classical dance forms, such as Bharatanatyam, Kathak, and Odissi.

• Ritualistic Use: Many instruments classified in the Natya Shastra are used in Hindu temple rituals and ceremonies across India.

Q89. Answer: (c) Manu Joseph

The correct answer is Manu Joseph.

Key Points

• "Miss Laila, Armed and Dangerous" is a novel authored by Manu Joseph, an acclaimed Indian writer and journalist.

• The book was published in 2017 and is known for its satirical take on contemporary Indian society and politics.

• Manu Joseph is a recipient of prestigious awards like the Hindu Literary Prize and has been longlisted for the Man Asian Literary Prize.

• The novel revolves around two women caught in a series of events that explore the themes of surveillance, politics, and societal hypocrisy.

• Joseph is widely regarded for his sharp wit and incisive commentary, and this book reflects his unique style of storytelling.

Additional Information

• Manu Joseph:

• Born in 1974, he is an Indian author and former editor of Open Magazine.

• His debut novel, "Serious Men", won the Hindu Literary Prize in 2010 and was adapted into a Netflix film in 2020.

• His second novel, "The Illicit Happiness of Other People", received critical acclaim for its exploration of psychological and societal issues.

• The Plot of "Miss Laila, Armed and Dangerous":

• The story is set in contemporary India and unfolds through the perspective of a young woman named Akhila Iyer, who investigates a terror suspect.

• The book critiques the functioning of government institutions and the media, blending satire with a gripping narrative.

• It highlights issues such as individual privacy, nationalism, and communal politics through a fictional yet realistic lens.

• Other Options:

• Sachin Kundalkar: An Indian filmmaker and author, known for his Marathi novel "Cobalt Blue".

• Ruchir Joshi: A writer and filmmaker, recognized for his novel "The Last Jet-Engine Laugh".

• Ajay K Pandey: Known for his inspirational and romantic novels like "You Are the Best Wife".

• Thematic Importance:

• Explores the impact of state surveillance and the erosion of personal freedoms.

• Delves into the psychological complexities of individuals caught in a politically charged environment.

Q90. Answer: (b) Meenakshi Temple, Madurai

The correct answer is Meenakshi Temple, Madurai.

Key Points

• The Meenakshi Temple, also known as the Meenakshi Amman Temple, is located in Madurai, Tamil Nadu.

• It is renowned for its architectural grandeur and is often referred to as the "Taj Mahal of the South" due to its majestic beauty and intricate design.

• This temple is dedicated to Goddess Meenakshi (an avatar of Goddess Parvati) and her consort Sundareswarar (an avatar of Lord Shiva).

• The temple complex is an exquisite example of Dravidian architecture, featuring 14 gopurams (gateway towers), the tallest of

which is about 170 feet.

• The temple is a significant pilgrimage site and a major tourist attraction, often regarded as a symbol of the cultural and spiritual heritage of South India.

Additional Information

• Architectural Features of Meenakshi Temple:

• The temple boasts an area of approximately 15 acres, making it one of the largest temple complexes in India.

• The Thousand Pillar Hall is a highlight of the temple, showcasing intricately carved sculptures and architectural brilliance.

• The ceilings of the temple are adorned with colorful frescoes depicting mythological stories.

• Historical Significance:

• The temple's origins date back to the 6th century BC, but the current structure was built during the Nayaka dynasty in the 16th century.

• The temple has been an important center for Hindu rituals, art, and culture for centuries.

• Festivals Celebrated:

• The temple is famous for its annual Meenakshi Tirukalyanam festival, celebrating the divine marriage of Meenakshi and Sundareswarar.

• This festival attracts thousands of devotees and tourists from across the world every year.

• Other Options and Their Significance:

• Sri Jagannath Puri Temple, Puri: Located in Odisha, this temple is famous for the annual Rath Yatra.

• Sri Venkateswara Temple, Tirupati: Located in Andhra Pradesh, it is one of the richest temples in the world and a significant pilgrimage site.

• Chamundeshwari Temple, Mysore: This temple in Karnataka is dedicated to Goddess Chamundeshwari and is situated on the Chamundi Hills.

Important Points

• The Meenakshi Temple is not only a place of worship but also a cultural landmark that represents the brilliance of South Indian temple architecture.

• The temple is a part of the tentative list of UNESCO World Heritage Sites, underscoring its global significance.

• Its moniker, the "Taj Mahal of the South", reflects its unparalleled beauty and significance in Indian heritage.

Q91. Answer: (d) Odisha

The correct answer is Odisha.

Key Points

• Raja Festival, also called Raja Parba or Raja Sankranti, is a traditional festival celebrated in the state of Odisha in India.

• It is observed to mark the advent of the agricultural season and the first monsoon rains, symbolizing fertility and the worship of Mother Earth (Bhuma Devi).

• The festival spans three days, with each day having its own significance: First Day - Pahili Raja, Second Day - Raja Sankranti, and Third Day - Basi Raja.

• During this festival, women are given importance as Raja celebrates femininity and fertility. They refrain from household chores, enjoy swings, wear new clothes, and apply alta (a red-colored dye) on their feet.

• Special dishes like Poda Pitha (a type of baked cake) are prepared, and people engage in festivities, including playing games, singing folk songs, and enjoying traditional rituals.

Additional Information

• Significance of Raja Festival:

• The festival is deeply connected with the agricultural and rural traditions of Odisha. It symbolizes the transition of Mother Earth to her menstruation period, a time when she rejuvenates herself.

• It is believed that during Raja, the land should not be tilled to give Mother Earth rest, emphasizing the importance of respecting nature and its cycles.

• The celebration of Raja also highlights the role of women in society, focusing on their health and well-being.

• Regional Practices:

• People in Odisha decorate swings (locally called Ram Doli or Jhula) with flowers and enjoy swinging as a form of recreation during the festival.

• Villages organize community games and cultural programs, including traditional folk songs dedicated to Raja.

• Markets are flooded with seasonal fruits, sweets, and items like new clothes and ornaments, making it a joyous occasion for shopping and socializing.

• Cultural Importance:

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• Raja Festival is one of the most prominent festivals in Odisha, celebrated with enthusiasm by all communities.

• It showcases Odisha's rich cultural heritage, including its unique cuisine, attire, and rituals.

• The festival fosters community bonding and serves as a platform for preserving traditional practices.

• Comparison with Other Festivals:

• Unlike harvest festivals like Pongal in Tamil Nadu or Baisakhi in Punjab, Raja focuses on the preparation for the agricultural season rather than the culmination of harvest.

• The emphasis on swings and women's celebration is unique to Raja and sets it apart from similar festivals in other parts of India.

Important Points

• Historical Background: The term Raja is derived from the Sanskrit word Rajas, which means menstruation. This reflects the festival's connection with the fertility of Mother Earth.

• Geographical Spread: While primarily celebrated in Odisha, Raja festivities have gained popularity in adjoining regions like West Bengal and Jharkhand, though on a smaller scale.

• Environmental Message: The festival promotes sustainability and eco-consciousness by emphasizing rest for the land and the importance of natural cycles in agriculture.

• Modern Adaptations: In urban areas, Raja celebrations have evolved to include contemporary entertainment like music concerts and fairs, blending tradition with modernity.

Q92. Answer: (d) Tripura

The correct answer is Tripura.

Key Points

• The Garia dance is a traditional folk dance of the northeastern Indian state of Tripura.

• It is performed during the Garia Puja, a festival celebrated by the tribal communities of Tripura to honor the deity Garia, believed to bring prosperity and good harvest.

• The dance is usually performed during the months of March and April, which coincide with the agricultural season and the Bengali New Year.

• The dance involves vibrant costumes, traditional tribal musical instruments such as the khamb (drum) and flutes, and rhythmic movements that depict the cultural richness and unity of the tribal people.

• The Garia dance is a collective performance, symbolizing the spirit of community and the connection between humans, nature, and the divine.

Additional Information

• Garia Puja:

• Garia Puja is one of the most important festivals for the tribal communities of Tripura, such as the Tripuri, Reang, Jamatia, and others.

• It is dedicated to the deity Garia, who is believed to control livestock, wealth, and crops.

• The festival involves the offering of chicken, rice, eggs, cotton thread, rice beer, and bamboo to the deity.

• The rituals are performed by a tribal priest, and the festival lasts for about a week.

• Significance of Garia Dance:

• The dance signifies gratitude towards nature and the divine for a good harvest.

• It also fosters social bonding and cultural unity among the tribal communities.

• Traditional Costumes and Instruments:

• Performers wear traditional tribal attire made of handwoven fabrics, adorned with beads and ornaments.

• The instruments used include the khamb (drum), bamboo flutes, and cymbals, adding a rhythmic and melodic touch to the dance.

• Other Cultural Dances of Tripura:

• Besides Garia, Tripura is also known for other traditional dances such as Hozagiri Dance (performed by the Reang community) and Lebang Boomani Dance.

• These dances are deeply rooted in the tribal culture and reflect their close association with nature.

Important Points

• Tripura: Tripura is one of the Seven Sister States in northeastern India, known for its rich tribal heritage and biodiversity.

• Tribal Population: Around 31% of Tripura's population comprises tribal communities, making their festivals and dances significant cultural markers.

• Recognition: Efforts have been made to preserve and promote tribal dances like Garia at state and national cultural events.

Q93. Answer: (c) Gaurav

The correct answer is Gaurav.

Key Points

• Gaurav is the name of the long-range glide bomb successfully tested by the Defence Research and Development Organisation (DRDO) from a Su-30 MKI aircraft in 2025.

• The glide bomb is developed by DRDO to enhance the precision strike capability of Indian Air Force (IAF) aircraft.

• The bomb is equipped with advanced guidance systems, allowing it to accurately hit distant targets over a long range.

• It is designed to be integrated with fighter jets like the Su-30 MKI, which is one of the most advanced multirole aircraft in the Indian Air Force.

• The successful test of the Gaurav glide bomb demonstrates India's growing capability in indigenous weapon development and boosts the nation's defense preparedness.

Additional Information

• DRDO:

• The Defence Research and Development Organisation (DRDO) is an agency under the Ministry of Defence, Government of India, responsible for developing technology for the armed forces.

• Established in 1958, DRDO works on a wide range of projects, including missiles, aircraft, radar systems, and more.

• It has played a pivotal role in strengthening India's defense capabilities through indigenous development.

• Su-30 MKI Aircraft:

• The Su-30 MKI is a multirole fighter jet developed by Russia's Sukhoi and modified for the Indian Air Force by Hindustan Aeronautics Limited (HAL).

• It features advanced avionics, thrust-vectoring engines, and can carry a wide variety of weapons, including bombs, missiles, and rockets.

• The aircraft is a key part of India's air defense strategy and is widely regarded for its versatility and performance.

• Glide Bombs:

• Glide bombs are precision-guided munitions that glide toward their target after being released from an aircraft.

• They are equipped with navigation and guidance systems, enabling long-range strikes with high accuracy.

• These bombs are used to hit strategic and tactical targets in defense operations.

• Other DRDO Developments:

• DRDO has developed several notable weapons systems, including the BrahMos missile, Akash air defense system, and Agni series of ballistic missiles.

• Its focus on indigenous technology development has significantly reduced India's reliance on foreign defense imports.

Important Points

• Prithvi:

• The Prithvi missile is a short-range, surface-to-surface ballistic missile developed by DRDO.

• It is not a glide bomb and is designed primarily for tactical battlefield roles.

• Agni:

• The Agni series consists of medium to intercontinental-range ballistic missiles developed by DRDO.

• These missiles are used for strategic deterrence rather than air-launched bomb applications.

• BrahMos:

• The BrahMos missile is a supersonic cruise missile jointly developed by India and Russia.

• It is not a glide bomb but is widely used for precision strikes against high-value targets.

• Significance of Glide Bombs:

• Glide bombs like Gaurav offer a cost-effective way to achieve precision strikes without requiring sophisticated missile systems.

• They are particularly useful in modern aerial warfare, where accuracy and range are critical.

Q94. Answer: (b) The government inability to repay foreign borrowings.

The correct answer is The government inability to repay foreign borrowings..

Key Points

• The 1991 economic crisis in India was primarily triggered by the government's inability to repay foreign borrowings. Due to excessive reliance on external debt to fund fiscal and trade deficits, the country faced a severe balance of payment (BoP) crisis.

• The foreign exchange reserves dropped to an alarming level of less than $1 billion by June 1991, which was insufficient to finance even two weeks of imports.

• India had accumulated a significant current account deficit (CAD), caused by high imports and low exports, leading to an unsustainable external debt burden.

• The crisis was further aggravated by the Gulf War (1990-91), which resulted in a sharp increase in oil prices, disrupting India's import bill and further depleting foreign reserves.

• In response, the Indian government took emergency measures, including pledging gold reserves to secure loans from the International Monetary Fund (IMF) and initiating comprehensive economic reforms.

Additional Information

• Background of the 1991 Economic Crisis:

• During the 1980s, India followed an inward-looking economic strategy with high tariff barriers and import substitution policies, which led to inefficiencies and stagnation in economic growth.

• The fiscal deficit increased to 8.4% of GDP in 1990-91, and the current account deficit widened to 3.1% of GDP.

• Excessive reliance on external commercial borrowings made the economy vulnerable to global shocks.

• Key Economic Reforms Introduced:

• To resolve the crisis, the government launched the Liberalization, Privatization, and Globalization (LPG) reforms under the leadership of Finance Minister Dr. Manmohan Singh.

• Significant policy changes included devaluation of the Indian Rupee, reduction of import tariffs, deregulation of domestic industries, and opening up to foreign direct investment (FDI).

• Role of International Organizations:

• The IMF provided a bailout package of $2.2 billion to help India overcome the crisis, contingent on implementing structural economic reforms.

• India pledged around 67 tons of gold to secure loans from the Bank of England and the Bank of Japan.

• Consequences of the Crisis:

• The crisis marked a turning point in India's economic policy, paving the way for a more open and market-oriented economy.

• India experienced accelerated economic growth in the subsequent decades, with GDP growth rates exceeding 6% annually during the 1990s and 2000s.

Important Points

• Other Contributing Factors to the Crisis:

• Political instability during the late 1980s and early 1990s, including the assassination of Rajiv Gandhi in 1991, weakened investor confidence.

• The Gulf War led to a significant increase in remittances from Indian workers in the Middle East being disrupted.

• India's rigid licensing system, known as the License Raj, stifled private sector growth and innovation.

• Legacy of the 1991 Reforms:

• Post-reform, sectors such as IT, telecommunications, and manufacturing emerged as drivers of economic growth.

• India's foreign exchange reserves grew significantly, standing at over $600 billion as of 2023, a stark contrast to 1991.

• The country transitioned from a low-growth, state-controlled economy to one of the fastest-growing major economies globally.

Q95. Answer: (b) 1991

The correct answer is 1991.

Key Points

• The Directorate General of Foreign Trade (DGFT) was established in 1991 under the Ministry of Commerce and Industry, Government of India. It came into existence in the backdrop of the economic liberalization and reforms initiated in India in the early 1990s.

• It acts as the nodal agency responsible for implementing the Foreign Trade Policy of India, aimed at promoting and facilitating exports and imports.

• Foreign Trade Policy (FTP) is formulated by DGFT to enhance India's trade competitiveness globally. The policy includes guidelines for exporters and importers, along with incentives to boost trade.

• DGFT is headquartered in New Delhi, with regional offices across the country to cater to the needs of traders, exporters, and importers.

• It also manages the issuance of various licenses, such as Import Export Code (IEC), which is mandatory for businesses engaged in international trade.

Additional Information

• Economic Liberalization of 1991:

• The year 1991 marked a turning point in India's economic history with the introduction of Liberalization, Privatization, and Globalization (LPG) reforms.

• The reforms were initiated under the leadership of Prime Minister P.V. Narasimha Rao and Finance Minister Dr. Manmohan Singh.

• The main goal was to open up the Indian economy to global markets by removing trade barriers and encouraging private sector

participation.

• As part of these reforms, DGFT was established to promote exports and streamline trade policies.

• Functions of DGFT:

• Formulates and implements the Foreign Trade Policy (FTP) to enhance India's trade volume.

• Issues Import Export Code (IEC) numbers, which are essential for businesses involved in international trade.

• Provides various export incentives and schemes such as the Advance Authorization Scheme, Export Promotion Capital Goods (EPCG), and Service Export from India Scheme (SEIS).

• Handles disputes related to trade and ensures compliance with India's international trade obligations.

• Foreign Trade Policy:

• India’s Foreign Trade Policy is revised every five years and focuses on boosting exports and reducing trade deficits.

• The policy provides guidelines for exporters and importers and includes provisions for duty exemptions and incentives.

• For example, the 2023-2028 FTP aims to increase India’s exports to $2 trillion by 2030.

• Important Developments Related to DGFT:

• Launch of Trade Facilitation Portal: DGFT provides an online portal for traders to access various services, such as license applications and trade data.

• Promotion of Digital Initiatives: DGFT has digitized many processes to enhance transparency and efficiency in trade operations.

• Alignment with World Trade Organization (WTO): DGFT ensures that India's trade policies comply with global trade norms.

Important Points

• Import Export Code (IEC):

• The IEC is a unique 10-digit code issued by DGFT, mandatory for all entities involved in international trade.

• It is needed for customs clearance, remittances, and availing export-import benefits.

• IEC registration has been simplified with online application processes.

• Export Incentive Schemes:

• DGFT offers various schemes like Merchandise Export from India Scheme (MEIS) and Service Export from India Scheme (SEIS) to promote exports.

• These schemes provide financial incentives to exporters, helping them compete in global markets.

• Regional Offices:

• DGFT operates through multiple regional offices across India to assist exporters and importers at the local level.

• These offices also handle trade-related grievances and provide guidance on export-import policies.

• Digital Transformation:

• DGFT has adopted digital platforms like the DGFT Online portal to streamline processes and enhance accessibility.

• It also provides online tools for export-import data analysis and policy updates.

Q96. Answer: (c) Qualified Veto

The correct answer is Qualified Veto.

Key Points

• The President of India exercises veto powers as per the provisions of the Indian Constitution. These veto powers include Absolute Veto, Pocket Veto, and Suspensive Veto.

• Absolute Veto: The President uses this power to withhold assent to a bill, effectively rejecting it. This is typically exercised in cases where the bill is a private member's bill or when the cabinet resigns after passing the bill but before the President's assent.

• Pocket Veto: The President neither gives assent nor rejects the bill, effectively delaying it indefinitely. India’s Constitution does not prescribe a time limit for this veto, making it unique compared to other countries.

• Suspensive Veto: When a bill is sent back to the Parliament for reconsideration, except for money bills, the President exercises this veto. However, if the Parliament passes the bill again with or without amendments, the President must give assent.

• Qualified Veto: This type of veto is not available to the President of India. It is a feature of presidential systems like that of the United States, where the President’s veto can be overridden by a two-thirds majority in both Houses of Congress.

Additional Information

• Veto Powers of the Indian President:

• Absolute Veto: Used in cases where the President outrightly rejects the bill. Example: In 1954, Dr. Rajendra Prasad withheld assent to the PEPSU Appropriation Bill.

• Pocket Veto: This veto has been used notably by President Zail Singh in 1986 when he did not take action on the Indian Post Office (Amendment) Bill.

• Suspensive Veto: The President can return a bill (except money bills) for reconsideration. However, if the bill is passed again by Parliament, it is mandatory for the President to give assent.

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• Veto Powers in Other Countries:

• United States: The US President exercises a Qualified Veto, which can be overridden by a two-thirds majority in Congress.

• United Kingdom: The British monarchy has theoretical veto power, but it has not been exercised since the early 18th century.

• Important Points about the Indian President's Veto Powers:

• The President's veto powers are significant in maintaining checks and balances within the legislative process.

• The Pocket Veto provides the Indian President with a unique form of discretion compared to other democratic nations.

Q97. Answer: (b) Speaker of the House of the People

The correct answer is Speaker of the House of the People.

Key Points

• Article 110 of the Constitution of India defines a Money Bill and explicitly states that the decision regarding whether a bill is a Money Bill or not rests with the Speaker of the Lok Sabha.

• The Speaker's decision on this matter is considered final and cannot be challenged in any court of law.

• A Money Bill deals with issues like taxation, borrowing of money by the government, expenditure from consolidated funds, or any financial matters as specified in the Constitution.

• Only the Lok Sabha (House of the People) can introduce a Money Bill, and the Speaker plays a pivotal role in categorizing bills under this category.

• The Rajya Sabha (Council of States) can make recommendations on a Money Bill but cannot amend or reject it. However, these recommendations are not binding on the Lok Sabha.

Additional Information

• Role of the Speaker:

• The Speaker of the Lok Sabha is the highest authority in the Lok Sabha and is elected by its members.

• The Speaker ensures the smooth functioning of the house and has the authority to interpret constitutional provisions related to parliamentary procedures.

• When categorizing a bill as a Money Bill, the Speaker must ensure it adheres to the provisions mentioned in Article 110 of the Constitution.

• Money Bill vs. Financial Bill:

• A Money Bill deals exclusively with financial matters as defined in Article 110, whereas a Financial Bill may involve financial aspects but also includes other legislative provisions.

• Unlike a Money Bill, a Financial Bill can be introduced in either house of Parliament.

• Relevant Constitutional Articles:

• Article 110: Defines a Money Bill and its scope.

• Article 111: Deals with the President's assent to Money Bills.

• Article 117: Pertains to Financial Bills other than Money Bills.

• Examples of Money Bills:

• The Finance Act, which outlines taxation and expenditure policies of the government.

• GST Bills: These were categorized as Money Bills during their passage in Parliament.

Important Points

• Role of the President: The President of India cannot decide whether a bill is a Money Bill. However, the President can recommend the introduction of a Money Bill in the Lok Sabha.

• Prime Minister and Finance Minister: While they play significant roles in drafting and proposing bills related to financial matters, they have no authority to decide if a bill is a Money Bill.

• Judicial Review: The Speaker's decision on categorizing a Money Bill is final and cannot be subjected to judicial review.

• Historical Context: The classification of GST Bills as Money Bills in 2017 sparked debates about the Speaker's discretionary powers in such matters.

Q98. Answer: (c) Blood

The correct answer is Blood.

Key Points

• Carbon dioxide (CO_2) is transported in the human body primarily through the bloodstream. It is carried from various tissues where it is produced to the lungs for exhalation.

• Approximately 70% of carbon dioxide is transported as bicarbonate ions (HCO_3^-) in the blood after reacting with water and forming carbonic acid (H_2CO_3), which then dissociates.

• About 20-23% of CO_2 is bound to hemoglobin and transported as carbaminohemoglobin. Hemoglobin acts as a carrier for CO_2, just as it does for oxygen.

• Only 7-10% of CO2 is transported in the blood in a dissolved form within the plasma.

• CO2 is released into the alveoli of the lungs during gas exchange, where it is expelled during exhalation.

Additional Information

• Role of Hemoglobin:

• Hemoglobin is a protein in red blood cells that primarily transports oxygen from the lungs to the tissues. It also plays a vital role in the transport of carbon dioxide.

• When CO2 binds to hemoglobin, it forms carbaminohemoglobin. This is a reversible reaction, allowing hemoglobin to release CO2 in the lungs.

• Bicarbonate Buffer System:

• Carbon dioxide reacts with water in the presence of the enzyme carbonic anhydrase to form carbonic acid (H2CO3).

• Carbonic acid dissociates into bicarbonate ions (HCO3-) and hydrogen ions (H+) in the blood, maintaining the pH balance of the body.

• This buffering system is crucial for preventing drastic changes in blood pH levels.

• Gas Exchange in the Lungs:

• At the lungs, CO2 diffuses from the blood into the alveoli due to the concentration gradient.

• It is expelled from the body during exhalation, completing the cycle of gas exchange.

• Other Transport Mechanisms:

• While blood is the primary medium for CO2 transport, other bodily fluids such as plasma also carry dissolved CO2.

• Options like sweat, mucus, and lymph are not involved in CO2 transport as these do not serve as primary systems for respiratory gas exchange.

Important Points

• Respiratory System Functions:

• The human respiratory system is responsible for the exchange of gases, including oxygen and carbon dioxide, between the body and the external environment.

• CO2 is a waste product of cellular respiration and must be removed efficiently to maintain homeostasis.

• Enzyme Involvement:

• Carbonic anhydrase is an enzyme found in red blood cells that facilitates the conversion of CO2 and water into carbonic acid.

• This enzyme accelerates the reaction, ensuring efficient CO2 transport and pH regulation.

• Medical Relevance:

• Disruptions in CO2 transport or elimination can lead to conditions such as respiratory acidosis or alkalosis.

• Understanding CO2 transport mechanisms is critical in managing respiratory and metabolic disorders.

Q99. Answer: (b) Vaishali

The correct answer is Vaishali.

Key Points

• Mahavira Jain, the 24th Tirthankara of Jainism, was born in Vaishali, located in present-day Bihar, India, in a royal family of the Kshatriya clan.

• Vaishali was an ancient city renowned for its significance in both Jainism and Buddhism, and it was the capital of the Lichchhavi Republic, an important oligarchic republic during ancient India.

• Mahavira was born as Vardhamana in 599 BCE to King Siddhartha and Queen Trishala, making Vaishali a notable historical site for followers of Jainism.

• Vaishali is also famous for its association with other spiritual leaders, including Lord Buddha, who delivered many discourses in the region. This emphasizes its role as a center of spiritual and philosophical growth during ancient India.

• Mahavira abandoned his royal privileges at the age of 30, renouncing worldly possessions and pursuing spiritual enlightenment, which eventually led him to establish Jainism as a prominent religious philosophy.

Additional Information

• Vaishali:

• Vaishali is an ancient city located in modern-day Bihar. It was one of the world's first republics, governed by an elected assembly of representatives known as the Lichchhavis.

• It holds immense historical and religious importance due to its connection with Jainism and Buddhism. Lord Buddha preached his last sermon in Vaishali before attaining Mahaparinirvana.

• Vaishali is home to several archaeological sites, including the Ashokan Pillar, which marks the legacy of Emperor Ashoka's contribution to Buddhism.

• Mahavira’s Teachings:

• Mahavira emphasized the principles of Ahimsa (non-violence), Aparigraha (non-possessiveness), and Anekantavada (pluralism), forming the core of Jain philosophy.

• He propagated the concept of the Five Great Vows: non-violence, truthfulness, non-stealing, celibacy, and non-possessiveness, which are followed by Jain monks and devotees.

• Other Options:

• Taxila: Taxila, located in present-day Pakistan, was a famous center of learning in ancient India but has no direct connection to Mahavira Jain.

• Ujjain: Ujjain was an important cultural and spiritual hub in ancient India, known for its connection to Hinduism, but it is not related to Mahavira Jain's birth.

• Pataliputra: Pataliputra (modern-day Patna) was a significant political and administrative center in ancient India, especially during the Mauryan Empire, but it does not have a connection to Mahavira Jain's birthplace.

• Important Historical Significance:

• Vaishali is regarded as a sacred site by Jains due to its association with Mahavira and his teachings.

• The city played a pivotal role in shaping ancient Indian political, spiritual, and cultural ideologies.

• Its historical relevance is further amplified by its contributions to the republican governance system and its role in the development of Buddhist philosophy.

Important Points

• Mahavira's Life Journey:

• After renouncing his royal life, Mahavira spent 12 years in meditation and ascetic practices, attaining Kevala Jnana (omniscience).

• He organized Jainism into a structured religion, emphasizing ethical living, respect for all life forms, and spiritual liberation.

• Vaishali's Legacy:

• Vaishali continues to be a site of pilgrimage for Jains and Buddhists, preserving its ancient heritage and spiritual significance.

• It is recognized as a UNESCO tentative site, highlighting its importance in the history of civilization.

• Historical Context:

• Vaishali's role as a republican city and its spiritual contributions underscore its pivotal place in ancient Indian history.

• Mahavira's teachings from Vaishali have influenced ethical and philosophical thought across centuries.

Q100. Answer: (c) Both I and II

The correct answer is Both I and II.

Key Points

• Selective Reabsorption in the Kidney: The kidney plays a crucial role in maintaining the body's homeostasis by filtering blood and selectively reabsorbing essential substances. The filtrate produced in the nephron contains substances like water, glucose, amino acids, ions, and metabolic waste.

• Reabsorption of Glucose: Glucose is selectively reabsorbed in the proximal convoluted tubule (PCT) of the nephron. This process ensures that glucose does not appear in urine under normal conditions. Nearly 100% of glucose is reabsorbed unless the blood glucose levels exceed the renal threshold, as observed in diabetes mellitus.

• Reabsorption of Amino Acids: Like glucose, amino acids are also selectively reabsorbed in the proximal convoluted tubule. This process is vital for conserving amino acids, which are building blocks of proteins, preventing their loss through urine.

• Mechanism of Reabsorption: The reabsorption of glucose and amino acids occurs through active transport mechanisms involving specific carrier proteins and energy expenditure (ATP). Sodium co-transport is a common mechanism for both substances.

• Correctness of Statements: Statement I (Glucose is selectively reabsorbed) and Statement II (Amino acids are selectively reabsorbed) are both correct. These substances are essential for the body and are reabsorbed to prevent their loss in urine.

Additional Information

• Nephron Structure: The nephron is the functional unit of the kidney. It consists of the glomerulus, Bowman's capsule, proximal tubule, loop of Henle, distal tubule, and collecting duct.

• Glomerular Filtration: The initial filtrate is formed in the glomerulus and contains water, ions, glucose, amino acids, and waste products like urea. The glomerular filtration rate (GFR) is approximately 125 mL/min in a healthy adult.

• Proximal Convoluted Tubule (PCT): The PCT is the site where most reabsorption occurs. Around 65% of water and salts, along with all glucose and amino acids, are reabsorbed here.

• Renal Threshold for Glucose: The renal threshold for glucose is around 180 mg/dL. If blood glucose levels exceed this threshold, glucose appears in urine, a condition known as glycosuria.

• Diseases Affecting Reabsorption: Conditions like diabetes mellitus can impair glucose reabsorption, while certain genetic disorders (e.g., Fanconi syndrome) can affect amino acid reabsorption.

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Important Points

• Role of Sodium Co-Transport: Both glucose and amino acids are reabsorbed via sodium-dependent active transport in the proximal tubule.

• Energy Requirement: Active transport mechanisms in the kidney require ATP to function efficiently, highlighting the energy-intensive nature of reabsorption.

• Impact of Kidney Disorders: Diseases like chronic kidney disease (CKD) can impair reabsorption processes, leading to abnormal excretion of essential substances like glucose and amino acids.

• Homeostasis Maintenance: The kidney ensures the body's internal environment remains stable by reabsorbing essential substances and excreting waste products.

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