SSC CHSL 2025 Tier-1 (Held On: 12 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. The committee B. has submitted their report C. to the board D. for review.

(a) The committee
(b) has submitted their report
(c) to the board
(d) for review.

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

The manager hired him purely _____, despite his lack of experience.

(a) on the edge
(b) at all costs
(c) by the book
(d) on merit

Q3. Select the most appropriate synonym of the word:

Nadir

(a) Apex
(b) Zenith
(c) Peak
(d) Low point

Q4. Fill in the blank with the most appropriate idiom:

His sudden resignation caught everyone _____.

(a) red-handed
(b) off guard
(c) in limbo
(d) on thin ice

Directions

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

Traditional classrooms are becoming dynamic learning spaces thanks to the crucial role that technology has played in modern education. Technology provides a variety of ways to engage and learn, from virtual reality simulations and interactive whiteboards to online learning environments and instructional applications. It gives pupils instant access to a multitude of knowledge, encouraging critical thinking and self-directed investigation. Adaptive software and data analytics have made it easier to create personalised learning experiences that are catered to each learner's unique speed and learning preferences. Technology helps teachers by streamlining administrative duties, enabling group projects, and creating new teaching opportunities. Despite ongoing worries about digital distractions and fair access, technology's unquestionable strength is its capacity to improve accessibility, engagement, and relevance to 21st-century learning needs.

Q5. How has technology impacted traditional classrooms according to the text?

(a) It has replaced the need for teachers
(b) It has made classrooms more dynamic learning spaces
(c) It has limited the learning resources available to students
(d) It has reduced the relevance of classroom teaching

Q6. What role does technology play in enhancing student learning?

(a) It limits access to information
(b) It provides instant access to a variety of knowledge
(c) It only focuses on textbook-based learning
(d) It restricts critical thinking and inquiry

Q7. What feature of technology helps in creating personalized learning experiences?

(a) Virtual reality simulations
(b) Adaptive software and data analytics
(c) Interactive whiteboards
(d) Group projects

Q8. How does technology assist teachers in the classroom?

(a) By eliminating the need for group projects
(b) By streamlining administrative tasks and creating new teaching opportunities
(c) By focusing only on individual learning experiences
(d) By limiting student-teacher interactions

Q9. What is one of the main concerns regarding technology in education mentioned in the text?

(a) Lack of digital resources
(b) The high cost of technology
(c) Digital distractions and unequal access
(d) Technology's inability to improve learning outcomes

Q10. Which of the following sentences uses the word "bank" with the same meaning as in the following sentence?

"The river overflowed its bank after the storm."

(a) The teller at the bank smiled as she counted the money
(b) He used a shovel to bank the soil around the new plant
(c) The airplane began to bank to the left as it approached the runway.
(d) They enjoyed a picnic on the grassy bank of the stream.

Q11. Choose the correctly spelt word:

(a) Voluntary
(b) Voluntry
(c) Volontary
(d) Vouluntary

Q12. Choose the correctly spelt word:

(a) Vacuum
(b) Vacum
(c) Vaccum
(d) Vaccuum

Q13. Choose the correct meaning of the idiom:

The icing on the cake

(a) A difficult task
(b) A sweet dessert
(c) The best part of something
(d) A minor detail

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Q14. Choose the correct one-word substitute for:

A person who can foresee future events

(a) Oxymoron
(b) Cinephile
(c) Seer
(d) Pitcher

Q15. Select the most appropriate antonym of the word:

Noxious

(a) Beneficial
(b) Toxic
(c) Poisonous
(d) Unhealthy

Q16. Select the most appropriate antonym of the word:

Pernicious

(a) Harmful
(b) Detrimental
(c) Injurious
(d) Beneficial

Q17. Choose the correct one-word substitute for:

A person who collects or studies butterflies

(a) Lepidopterist
(b) Ornithologist
(c) Entomologist
(d) Biologist

Q18. Change the following sentence into the Active form.

Let the documents be submitted to the head of the department by the end of the week.

(a) You should submit the documents to the head of the department by the end of the week.
(b) Submit the documents to the head of the department by the end of the week.
(c) The documents will be submitted to the head of the department by the end of the week.
(d) Let the head of the department submit the documents by the end of the week.

Q19. Select the option that expresses the given sentence in indirect voice.

The student said, "I have been practicing for the competition for months, but I am still nervous, as the other competitors are very skilled."

(a) The student said that he has been practicing for the competition for months, but he is still nervous, as the other competitors are very skilled.
(b) The student said that he had been practicing for the competition for months, but he was still nervous, as the other competitors were very skilled.
(c) The student said that he had been practicing for the competition for months, but he is still nervous, as the other competitors are very skilled.
(d) The student said that he was practicing for the competition for months, but he was still nervous, as the other competitors were very skilled.

Q20. Choose the most suitable option to replace the highlighted part of the sentence:

In order to earning decent living we need to have a good job with a lucrative salary.

(a) earn life of decency
(b) earn a decent life
(c) earn a decent living
(d) earned decently life

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

My brother works for a MNC.

(a) MNC
(b) an MNC
(c) wherever MNC
(d) any MNC

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

People eat rice in many countries.

(a) Rice was eaten by people in many countries.
(b) Rice was eaten in many countries.
(c) Rice is eaten in many countries.
(d) Rice has been eaten by people in many countries.

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

The CEO announced that the company had lost a significant amount of revenue last year and that they were making difficult decisions to stay afloat.

(a) The CEO announced, "The company lost a significant amount of revenue last year, and we are making difficult decisions to stay afloat."
(b) The CEO announced, "The company had lost a significant amount of revenue last year, and we were making difficult decisions to stay afloat."
(c) The CEO announced, "The company loses a significant amount of revenue last year, and we are making difficult decisions to stay afloat."
(d) The CEO announced, "The company lost a significant amount of revenue the previous year, and we were making difficult decisions to stay afloat."

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

P. She used her little trowel to loosen the rich, black dirt.

Q. She made a shallow hole and carefully lowered a little seed into it.

R. She would now watch for the emergence of the first small sprout.

S. The ground was saturated by a soft stream of water, signifying the possibility of fresh life.

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

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

P. He believed that the id, ego, and superego were all interrelated components of the mind.

Q. Sigmund Freud's work greatly shaped our conception of the human mind.

R. Unconscious urges often drive our conscious behavior, as per his psychoanalytic theory.

S. The conflicts which create psychological distress and worry were explained by this complex paradigm.

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

GENERAL INTELLIGENCE

Q26. In a code language, GARDENING becomes LFWIJSNSL. How would FLOWERBED be written?

(a) KQTBJWGJI
(b) KQTCJXGJI
(c) KQTBJXGJI
(d) KQTBJGWJI

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Q27. In a particular code language where CHAIR is written as DIBJS, TABLE is written as UBCMF, and WINDOW is written as XJOEPX, then using this systematic encoding method, how would KEYBOARD be written?

(a) LFZCPBSE
(b) LFZCPASE
(c) LFZCOARD
(d) KFZCPBSE

Q28. In a certain code system, if SPECTACULAR is coded as TQFDUBDVMBS and MAGNIFICENT is coded as NBHOJGJDFOU, then what is the code for WONDERFUL?

(a) XPOEFSGVM
(b) XPNEFSGVM
(c) XPOEFSHVM
(d) XPOEFSGVN

Q29. Here some problem or solution of the problem is given in the statement you have to choose the appropriate logical deduction for given statement.

Statement:

Urban areas have expanded rapidly, but public transport has not kept pace. As a result, traffic congestion and air pollution have increased. Experts recommend massive investments in metro lines, electric buses, and last-mile connectivity to address urban mobility challenges.

Conclusions:

I. The lack of adequate public transport contributes to pollution in cities.

II. Improving public transport can reduce urban mobility problems.

III. Urban growth is always a negative phenomenon.

Which conclusion necessarily follows?

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

Q30. Each item describes a situation and is followed by four possible responses. Indicate the response you find most appropriate. Choose only one response for each item. The responses will be evaluated based on the level of appropriateness for the given situation.

Nisha is choosing between two job offers. One offers a high salary but requires frequent travel and overtime. The other offers flexible hours, remote work, and a moderate salary. Nisha values work-life balance and spends weekends with her family. Which job should she take?

(a) High-salary job with travel
(b) Moderate-salary job with flexibility
(c) Take both jobs part-time
(d) Reject both and wait for another offer

Q31. In this type of questions, question is provided with substitutes for various mathematical symbols, followed by a question involving calculation of an expression or choosing the correct/incorrect equation. You have to put the real signs in the given equation and then solve the questions as required.

If '^' stands for '÷', '@' stands for '+', '%' stands for '-', '$' stands for 'x', then find the value of:

8 % 11 $ 10 % 3 = ?

(a) -106
(b) -104
(c) -33
(d) -105

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Q32. In this type of questions, question is provided with substitutes for various mathematical symbols, followed by a question involving calculation of an expression or choosing the correct/incorrect equation. You have to put the real signs in the given equation and then solve the questions as required.

If '~' stands for '÷', '$' stands for '-', '%' stands for 'x', '#' stands for '+', then find the value of:

6 # 15 # 14 # 5 = ?

(a) 39
(b) 41
(c) 40
(d) 42

Q33. In a row of 30 students, Ravi is 12th from the left and Priya is 8th from the right. How many students are sitting between Ravi and Priya?

(a) 8
(b) 9
(c) 10
(d) 11

Q34. In a row of 80 students, if Arun is 23rd from the left and there are 18 students between Arun and Bharat, what is Bharat's position from the right end? (Bharat is to the right of Arun)

(a) 38
(b) 39
(c) 40
(d) 41

Q35. Each question given below consists of a statement, followed by two arguments numbered I and II. You have to decide which of the arguments is a 'strong' argument and which is a 'weak' argument.

Statement : Should free healthcare be provided to all citizens regardless of income?

Argument I : Yes, healthcare is a basic right and should be accessible to all.

Argument II : No, it will put excessive financial pressure on the government.

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

Q36. In each question below is given a statement followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and on the basis of the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

Statement : Many people are complaining about adulterated milk being sold in the market, causing health issues.

Course of action I : Conduct regular inspections and impose strict penalties on offenders.

Course of action II : Ban the sale of milk in the market for six months.

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

Q37. Few of the letters are given followed by a question mark (?) these letters are following a specific pattern you have to give the correct option which can replace question mark.

Find the next letter: B, E, I, N, ?

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

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Q38. Few of the letters are given followed by a question mark (?) these letters are following a specific pattern you have to give the correct option which can replace question mark.

What continues: S, O, K, G, ?

(a) C
(b) D
(c) E
(d) F

Q39. In this question some conditions or circumstances is provided to you, you have to make logical judgement according to mentioned circumstances and mark the correct judgement for question.

An IT company discovers a minor security breach in one of its user databases. No major data has been compromised, but it could become serious if not handled properly. The management must decide how to proceed without causing unnecessary panic among users.

(a) Hide the issue and hope it doesn't escalate.
(b) Publicly announce a major crisis to alert all users.
(c) Quietly patch the vulnerability and release a generic security update.
(d) Inform users transparently about the breach and the steps taken to fix it.

Q40. Four meaningful words are given in the options you have to check that which of the following words cannot be formed from the letters.

'REASONABLE'

(a) ARSON
(b) NOBLE
(c) BOES
(d) BRAIN

Q41. In this type of questions, question is provided with some issues/disputes/problem, followed by few methods to resolve the problem in statement choosing the appropriate problem solving method that can be implemented.

A teacher notices that some students copy from each other during tests. Best preventive measure?

(a) Seating arrangement change and multiple versions of question paper
(b) Ignore it as minor
(c) Publicly shame the students caught
(d) Cancel all future tests

Q42. In each of the following questions, there is a certain relationship between two given letter pairs on one side of (::) and pair is given on another side of (::) where another pair is to be found from the given alternatives, having the same relationship with this pair as the pairs of the given pair bear. Choose the best alternative.

AB : DC :: CD : ?

(a) FE
(b) FD
(c) GE
(d) FC

Q43. In each of the following questions, there is a certain relationship between two given letter pairs on one side of (::) and pair is given on another side of (::) where another pair is to be found from the given alternatives, having the same relationship with this pair as the pairs of the given pair bear. Choose the best alternative.

BM : YN :: CK : ?

(a) XP
(b) XJ
(c) WK
(d) XM

Q44. Find the next element that replace the ? Logically

7, 24, 58, 126, ?

(a) 252
(b) 262
(c) 273
(d) 264

Q45. Find the next element that replace the ? Logically

9, 28, 66, 142, ?

(a) 309
(b) 294
(c) 289
(d) 301

Q46. Find the next element that replace the ? Logically

10, 21, 54, 153, ?

(a) 451
(b) 443
(c) 450
(d) 464

Q47. In three of the following pairs are same by same pattern except one pair. Which pair does not follow this pattern?

(a) 18 : 13
(b) 30 : 24
(c) 34 : 29
(d) 27 : 22

Q48. You notice your co-worker is unusually quiet and withdrawn during meetings, after being very active previously. What is the most socially intelligent approach?

(a) Privately check in with them asking if they're okay and offering support
(b) Publicly ask why they are not contributing like before
(c) Ignore it; they will open up if ready
(d) Tell the manager they are underperforming

Q49. Select the option that represents the correct order of the given words as they would appear in an English dictionary.

1. Commercial
2. Commission
3. Committee
4. Communication
5. Community

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

Q50. Select the option that represents the correct order of the given words as they would appear in an English dictionary.

1. Island
2. Income
3. Indeed
4. Inside
5. Industry
6. Insect

(a) 2,3,5,6,1,4

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(b) 3,2,5,6,1,4
(c) 2,3,5,6,4,1
(d) 3,2,5,6,4,1

QUANTITATIVE APTITUDE

Q51. If $x + y + z = 0$, and $x^2 + y^2 + z^2 = 32$, then find the value of $xy + yz + xz$.
(a) -16
(b) 16
(c) -32
(d) 32

Q52. A, B and C invest in a business with their capitals in the ratio 2 : 3 : 4. After 6 months, A increases his capital by 50%. At the end of 2 years, the total profit earned is Rs. 90,000. How much profit does A receive?
(a) Rs.18,000
(b) Rs.20,456.78
(c) Rs.22,000
(d) Rs.25,384.62

Q53. If cos A = 12/13 and sin B = 5/13, find sin A cos B + cos A sin B:
(a) 60/169
(b) 13/169
(c) 120/169
(d) 5/13

Q54. A vendor buys apples at 10 for Rs. 120 and sells them at 8 for Rs. 100. What is his profit or loss percentage?
(a) 4.17% profit
(b) 4.17% loss
(c) 5.27% profit
(d) 5.27% loss

Q55. A and B together have Rs. 9000. If 4/11 of A's amount is equal to 3/5 of B's amount, how much amount does A have?
(a) Rs. 5603.8
(b) Rs. 6000
(c) Rs. 4013
(d) Rs. 3478.5

Q56. An amount is said to double in 5 years with compound interest. How many years will it take for the amount to grow to 8 times its original value?
(a) 25
(b) 20
(c) 15
(d) 10

Q57. The ratio of the speeds of a bike and a car is 4 : 5. If the bike travels 160 km in 4 hours, how far will the car travel in 5 hours?
(a) 200 km
(b) 250 km
(c) 300 km
(d) 350 km

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Q58. The average marks of 30 students is 55. If one student who scored 40 is replaced by another who scored 70, what will be the new average?

(a) 56
(b) 58
(c) 60
(d) 62

Q59. Which of the following is the smallest number divisible by 9, 12, and 15 and leaves a remainder of 4 in each case?

(a) 158
(b) 184
(c) 78
(d) 88

Q60. The price of a shirt is increased by 20% and then again increased by 10%. What is the net percentage increase in price?

(a) 30%
(b) 32%
(c) 31%
(d) 33%

Q61. A can complete a task in 10 days and, B can finish a task in 15 days, respectively. A starts the work and works for 4 days, after which B joins A. How many more days will they take to complete the task?

(a) 3.6 days
(b) 2.8 days
(c) 7.8 days
(d) 1.4 days

Q62. A fan's cost price is unknown. A retailer marks it up so that its marked price is Rs. 5,000. They offer a 20% discount on this marked price. Even after the discount, they make a profit of 25%. What was the original cost price of the fan for the retailer?

(a) Rs. 3,000
(b) Rs. 3,500
(c) Rs. 3,200
(d) Rs. 4,000

Q63. A sum of money amounts to Rs. 6,720 in 4 years and to Rs. 7,680 in 6 years at a certain rate of simple interest. What is the annual rate of interest?

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

Q64. Find the value of $\sqrt{(12+\sqrt{(12+\sqrt{(12+\ldots)})})}$

(a) 3
(b) 4
(c) 6
(d) 12

Q65. A drum contains 80 litres of a 90% pure acid solution. If 8 litres of this solution are removed and replaced with 8 litres of pure water, what is the new percentage of acid in the solution?

(a) 8%
(b) 81%
(c) 82.5%
(d) 85%

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Q66. A chord of a circle measures 16 cm in length, and the perpendicular distance from the center of the circle to the chord is 6 cm. What is the radius of the circle?

(a) 10 cm
(b) 12 cm
(c) 18 cm
(d) 16 cm

Q67. A 3 cm-radius solid metal sphere is melted and reshaped into smaller spheres, each with a 1 cm radius. From the original sphere, how many smaller spheres can be created?

(a) 23
(b) 26
(c) 27
(d) 25

Q68. A solid hemispherical block is melted and recast into a cylinder of the same radius. The height of the cylinder is what fraction of the radius of the hemisphere?

(a) 2/3
(b) 3/2
(c) 1/4
(d) 1/2

Q69. What is the value of $(3.5)^2 + \sqrt{1.44} - (2.5 \div 0.5)$?

(a) 7.45
(b) 8.45
(c) 9
(d) 6.38

Q70. Simplify: $1/(\sqrt{5} - 2) + 1/(\sqrt{5} + 2)$

(a) $2\sqrt{5}$
(b) $\sqrt{6}$
(c) $\sqrt{5}$
(d) $2\sqrt{6}$

Q71. A line passes through the point (5, 7) and has a slope of -1. What is the equation of the line?

(a) y = -x + 12
(b) y = x/5 + 19
(c) y = -2x - 4
(d) y = 4x - 6

Q72. Find the value of k such that the quadratic equation $x^2 + kx + 16 = 0$ has real and distinct roots.

(a) k > 8
(b) k > 5
(c) k < -7
(d) k < -9

Q73. Simplify:

$(1 + \tan^2(x))/(1 + \cot^2(x)) \times (\sec(x) - \tan(x))/(\sec(x) + \tan(x))$

(a) $1/(1 + \sin(x))$
(b) $(\tan^2(x))/(1 + \sin(x))$
(c) $(1 - \sin(x))/(1 + \sin(x))$
(d) $(\tan^2(x)(1 - \sin(x)))/(1 + \sin(x))$

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Q74. If $\sin\theta = 7/25$, find $\cos^2\theta$.

(a) 576/625
(b) 718/525
(c) 736/525
(d) 347/125

Q75. In a right triangle ABC, right-angled at B, if tan A = 1, what is the value of 2 sin A cos A?

(a) 2
(b) 5
(c) 6
(d) 1

GENERAL AWARENESS

Q76. Tokyo Olympian C. A. Bhavani Devi is associated with which sport?

(a) Fencing
(b) Shooting
(c) Badminton
(d) gymnastics

Q77. As of 31st May 2025, who is the Chairman of the Bar Council of India?

(a) Ashok Arora
(b) Manan Kumar Mishra
(c) Vikas Singh
(d) Dushyant Dave

Q78. In 2025, the Women Entrepreneurship Platform (WEP), launched EmpowHER Biz - Sapno Ki Udaan in partnership with ____.

(a) New Shop
(b) TATA Trusts
(c) Azad Foundation
(d) JIO World

Q79. Announced in the Union Budget 2025-26, what is the primary objective of the National Geospatial Mission?

(a) To create and manage an integrated geospatial infrastructure for governance and development
(b) To promote satellite launch services for private companies
(c) To provide free GPS services to rural areas
(d) To monitor climate change patterns through satellite data

Q80. Which index in 2025 highlighted that account ownership in India has reached to 89% since 2011?

(a) Global Findex 2025
(b) Fiscal Health Index 2025
(c) Gross Financial Index 2025
(d) National Strategy for Financial Education

Q81. Project _____ is the world's first inter-continental large wild carnivore translocation project.

(a) Lion
(b) Cheetah
(c) Crocodile
(d) Panther

Q82. Who is the author of the book 'The Illicit Happiness of Other People'?

(a) Janice Pariat
(b) Madhuri Vijay
(c) Neel Mukherjee

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(d) Manu Joseph

Q83. 'Abhanga Vanis' are folk songs of which state?

(a) Manipur
(b) West Bengal
(c) Maharashtra
(d) Tamil Nadu

Q84. The 'Joda' dance, performed on a full moon night around Holi, belongs to which Indian state?

(a) Goa
(b) Uttarakhand
(c) Andhra Pradesh
(d) Karnataka

Q85. If a satellite is in the plane of the equator with 0 degrees inclination and at a height of about 36000 km then it is said to be in _____ orbit.

(a) Polar
(b) Geo-stationary
(c) Elliptical
(d) Sun-synchronous

Q86. Which of the following is NOT a main factor affecting the rate of evaporation?

(a) Surface area
(b) Buoyancy
(c) Wind speed
(d) Humidity

Q87. What is gravitational potential energy?

(a) Energy possessed by an object due to its motion
(b) Energy stored in an object due to its position above the ground
(c) Energy that is released during a chemical reaction
(d) Energy transferred through heat

Q88. India's first airport based self-powered indoor air quality monitoring facility 'Pavana Chitra' was unveiled at which airport in October 2024?

(a) Chennai International Airport
(b) Bengaluru International Airport
(c) Jaipur International Airport
(d) Thiruvananthapuram International Airport

Q89. Which railway zone became India's first to switch to compostable bioplastic on trains in August 2025?

(a) Northern Railway
(b) Southern Railway
(c) Western Railway
(d) Northeast Frontier Railway

Q90. Which of the following Mughal Emperor was assassinated by his nobles?

I. Farrukh Siyar

II. Alamgir II

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

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Q91. In the context of Microeconomics, the graphical representation of the demand function is called the _____.

(a) demand curve
(b) goods curve
(c) supply curve
(d) seller curve

Q92. The National Infrastructure Pipeline was launched in India in ___.

(a) 2003
(b) 2008
(c) 2013
(d) 2020

Q93. Abhijit Sen was the chairman of the Committee on the Wholesale Price Index which submitted its report in ____.

(a) 2004
(b) 2008
(c) 2010
(d) 2006

Q94. Which of the following subjects falls under the Concurrent List in the Indian Constitution?

(a) Police
(b) Criminal matters
(c) Radio and television
(d) Foreign affairs

Q95. Which of the following is NOT a cropping season in India?

(a) Kharif
(b) Rabi
(c) Zaid
(d) Barani

Q96. Who among the following was the deputy chairman of Planning Commission under the tenth five year plan?

(a) Shankarrao Chavan
(b) K.C. Pant
(c) Yaswant Sinha
(d) P. Shiv Shankar

Q97. In the context of trade policy tools, Which of the following is considered as non-tariff measure?

I. Anti-dumping measures
II. Technical barriers to trade measures

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

Q98. What led to the decline in mortality rate in India during 1921-1951?

(a) Second world war
(b) Improved health and sanitation
(c) Increase in birth rate
(d) Artificial intelligence

Q99. What are the temporary finger-like extensions of the cell surface used by Amoeba to take in food called?

(a) Flagella
(b) Cilia
(c) Vacuoles
(d) Pseudopodia

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Q100. What does 'moksha' stand for in the fourfold objective of life according to Vedic philosophy?

(a) Pursuit of desires
(b) Social status
(c) Spiritual freedom
(d) Wealth accumulation

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) has submitted their report

The correct answer is '2' i.e. has submitted their report.

Key Points

• The phrase "has submitted their report" contains a grammatical error.

• The subject of the sentence, "The committee," is a collective noun. Collective nouns are generally treated as singular in formal English unless the context specifically indicates otherwise.

• In this sentence, "their" is incorrect because it is a plural pronoun. The correct singular pronoun should be "its."

Correct sentence: The committee has submitted its report to the board for review.

Additional Information

• Collective Nouns:

• Collective nouns like "team," "committee," or "audience" are singular when they act as a single unit.

• Use singular verbs and pronouns with collective nouns unless the members of the group are acting individually.

• Example: The jury has given its verdict. (Singular)

• When to Use Plural Pronouns:

• When the members of the group are acting independently, a plural verb and pronoun can be used.

• Example: The jury have gone to their homes. (Plural)

Q2. Answer: (d) on merit

The correct answer is '4' i.e. on merit.

Key Points

• The phrase "on merit" means that the decision was made based on an individual's ability or worth, rather than other factors like experience, connections, or external influences.

• The sentence suggests that the manager overlooked the candidate's lack of experience and hired him because of his merit.

• The other options do not fit well in the context of the sentence:

• Option 1: "on the edge" does not relate to hiring criteria.

• Option 2: "at all costs" implies urgency or desperation, which is irrelevant here.

• Option 3: "by the book" means strictly following rules, which is not implied in the sentence.

Correct sentence: The manager hired him purely on merit, despite his lack of experience.

Additional Information

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• The term "merit" refers to the quality of being good or worthy, especially as a basis for being hired or rewarded.
• When decisions are made "on merit," they are based on the actual abilities or achievements of a person.
• This phrase is often used in professional or academic contexts to emphasize fairness and objectivity in decision-making.

Q3. Answer: (d) Low point

The correct answer is '4' i.e. Low point.

Key Points

• The word "Nadir" refers to the lowest point or the most depressed state.
• Among the options given, "Low point" is the synonym for "Nadir."
• Other options like "Apex," "Zenith," and "Peak" indicate the highest points, which are antonyms of "Nadir."

Correct answer: Low point.

Additional Information

• Definitions:
• Apex: The highest point of something.
• Zenith: The point directly above in the sky; the peak of power or success.
• Peak: The highest point, often used figuratively for achievements.
• Low point: The lowest or most depressed state.
• Usage Tips:
• "Nadir" is often used metaphorically to describe the lowest emotional or career point in someone's life.
• Be mindful of synonyms and antonyms to avoid confusion.

Q4. Answer: (b) off guard

The correct answer is '2' i.e. off guard.

Key Points

• The idiom "caught off guard" means being surprised or unprepared for something. It is used when a situation is unexpected and catches someone by surprise.
• In the given sentence, the sudden resignation of the person was unexpected, which aligns with the meaning of the idiom "off guard."
• The other options do not fit the context:
• Red-handed: Refers to being caught in the act of doing something wrong, which is unrelated to the context.
• In limbo: Refers to a state of uncertainty or being unresolved, which does not convey the intended meaning.
• On thin ice: Refers to being in a risky or precarious situation, which does not match the context here.

Correct sentence: His sudden resignation caught everyone off guard.

Additional Information

• Commonly used idioms with similar meanings:
• Caught by surprise: To be taken aback or not expecting something.
• Thrown off balance: To be unsettled or surprised by an unexpected event.

Q5. Answer: (b) It has made classrooms more dynamic learning spaces

The correct answer is Option 2.

Key Points

• The text explicitly states in the very first sentence that "Traditional classrooms are becoming dynamic learning spaces thanks to the crucial role that technology has played."
• It highlights that technology provides various ways to engage, such as virtual reality, interactive whiteboards, and instructional applications.
• Options 1, 3, and 4 contradict the passage, which claims technology helps teachers, provides instant access to a multitude of knowledge, and improves relevance.
• Therefore, the impact described is a shift toward more interactive and versatile learning environments.

Therefore, the correct answer is Option 2.

Correct Sentence from Text: "Traditional classrooms are becoming dynamic learning spaces thanks to the crucial role that technology has played in modern education."

Additional Information

• Option 1: Incorrect. The text says technology "helps teachers by streamlining administrative duties," not that it replaces them.
• Option 3: Incorrect. The text mentions technology gives students "instant access to a multitude of knowledge," which expands

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rather than limits resources.

• Option 4: Incorrect. The text concludes by stating technology's power is its capacity to "improve... relevance to 21st-century learning needs."

Q6. Answer: (b) It provides instant access to a variety of knowledge

The correct answer is Option 2.

Key Points

• The passage explicitly states that technology "gives pupils instant access to a multitude of knowledge, encouraging critical thinking and self-directed investigation."

• It mentions that technology provides a "variety of ways to engage and learn," which directly supports Option 2.

• The text highlights that technology enhances student learning by offering personalized experiences tailored to individual speeds and preferences through adaptive software.

• Options 1, 3, and 4 are contradicted by the text, which describes technology as expanding access and encouraging inquiry rather than limiting or restricting it.

Therefore, the correct answer is Option 2.

Correct Sentence from Text: "It gives pupils instant access to a multitude of knowledge, encouraging critical thinking and self-directed investigation."

Additional Information

• Option 1: Incorrect. The text says technology provides "instant access," which is the opposite of limiting it.

• Option 3: Incorrect. The passage mentions "virtual reality simulations," "interactive whiteboards," and "instructional applications," showing it goes beyond traditional textbooks.

• Option 4: Incorrect. The passage states that technology actually encourages "critical thinking and self-directed investigation."

Q7. Answer: (b) Adaptive software and data analytics

The correct answer is Option 2.

Key Points

• The passage specifically mentions that "Adaptive software and data analytics have made it easier to create personalised learning experiences."

• It further explains that these tools allow for education that is "catered to each learner's unique speed and learning preferences."

• While other tools like virtual reality (Option 1) and interactive whiteboards (Option 3) are mentioned as ways to engage students, they are not specifically linked to the personalization of the curriculum in this text.

• Group projects (Option 4) are mentioned as a collaborative effort enabled by technology, rather than a personalized one.

Therefore, the correct answer is Option 2.

Correct Sentence from Text: "Adaptive software and data analytics have made it easier to create personalised learning experiences that are catered to each learner's unique speed and learning preferences."

Additional Information

• Option 1: Incorrect. The text lists virtual reality as a way to "engage and learn" through simulations, but not as the primary driver for personalization.

• Option 3: Incorrect. Interactive whiteboards are categorized as tools that help turn traditional classrooms into "dynamic learning spaces."

• Option 4: Incorrect. The text states that technology "enables group projects" to assist teachers and collaboration, which is a collective activity rather than an individual personalized one.

Q8. Answer: (b) By streamlining administrative tasks and creating new teaching opportunities

The correct answer is Option 2.

Key Points

• The passage explicitly mentions how technology supports educators: "Technology helps teachers by streamlining administrative duties, enabling group projects, and creating new teaching opportunities."

• By automating or simplifying "administrative duties" (tasks), teachers can focus more on actual instruction and student interaction.

• The text also notes that technology enables group projects, which directly contradicts Option 1.

• The overall tone suggests that technology enhances the teacher's role rather than limiting it or reducing interactions.

Therefore, the correct answer is Option 2.

Correct Sentence from Text: "Technology helps teachers by streamlining administrative duties, enabling group projects, and creating new teaching opportunities."

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Additional Information

• Option 1: Incorrect. The text states technology enables group projects rather than eliminating them.

• Option 3: Incorrect. While technology helps with "personalised learning," it also supports "group projects," showing it does not focus only on individual experiences.

• Option 4: Incorrect. The passage implies technology provides "new teaching opportunities," which generally supports better engagement rather than limiting interaction.

Q9. Answer: (c) Digital distractions and unequal access

The correct answer is Option 3.

Key Points

• Toward the end of the text, the author acknowledges specific challenges: "Despite ongoing worries about digital distractions and fair access..."

• This highlights that while technology is powerful, distractions and inequality in access (fair access) remain significant concerns for educators and parents.

• Option 1 is incorrect because the text suggests there is actually a "multitude of knowledge" and "variety of ways to engage" rather than a lack of resources.

• Option 2 (high cost) is not explicitly mentioned in the passage, even though it is a real-world issue.

• Option 4 is incorrect because the passage argues that technology has an "unquestionable strength" in improving learning outcomes and engagement.

Therefore, the correct answer is Option 3.

Correct Sentence from Text: "Despite ongoing worries about digital distractions and fair access, technology's unquestionable strength is its capacity to improve accessibility..."

Additional Information

• Option 1: Incorrect. The text emphasizes the "multitude of knowledge" accessible to pupils, suggesting resources are plentiful.

• Option 2: Incorrect. While "fair access" is mentioned, the text does not specifically name "high cost" as the primary reason or concern.

• Option 4: Incorrect. The passage states that technology improves "accessibility, engagement, and relevance," which are all positive learning outcomes.

Q10. Answer: (d) They enjoyed a picnic on the grassy bank of the stream.

The correct answer is '4' i.e. They enjoyed a picnic on the grassy bank of the stream.

Key Points

• The word "bank" in the sentence "The river overflowed its bank after the storm" refers to the land alongside a river or stream.

• Option 4, "They enjoyed a picnic on the grassy bank of the stream," uses the word "bank" with the same meaning, referring to the land beside a stream.

• The other options use "bank" with different meanings:

• Option 1 refers to a financial institution.

• Option 2 refers to piling up soil (verb usage).

• Option 3 refers to the tilting movement of an airplane.

Correct sentence: "They enjoyed a picnic on the grassy bank of the stream."

Additional Information

• Different meanings of the word "bank":

• Land beside a river or stream: As used in the given sentence and Option 4.

• Financial institution: As used in Option 1.

• To pile up soil: As used in Option 2.

• Tilt movement: As used in Option 3.

Q11. Answer: (a) Voluntary

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

Key Points

• Option 1, Voluntary, is the correct spelling of the word.

• Option 2, Voluntry, is misspelled due to the omission of the letter "a."

• Option 3, Volontary, is incorrect as "o" replaces the "u" in the word.

• Option 4, Vouluntary, is misspelled because the "o" and "u" are swapped.

Correct word: The correct spelling is Voluntary, which means done willingly without being forced..

Additional Information

• Spelling Tips:

• Focus on the correct placement of vowels (a, e, i, o, u) within the word.

• Break the word into syllables: Vol-un-tary.

• Use a dictionary or spell-check tools to verify spelling if unsure.

• Usage Example:

• She made a voluntary donation to the charity.

• Participation in the program is entirely voluntary.

Q12. Answer: (a) Vacuum

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

Key Points

• The word "Vacuum" is correctly spelt and refers to a space entirely devoid of matter or air.

• The other options are incorrect spellings of the word:

• Option 2: "Vacum" is missing a 'u' in the spelling.

• Option 3: "Vaccum" has an unnecessary repetition of the letter 'c'.

• Option 4: "Vaccuum" has an unnecessary repetition of both 'c' and 'u'.

• Thus, the correct spelling is "Vacuum".

Correct word: Vacuum.

Additional Information

• Meaning: A vacuum is a space devoid of matter. It can also refer to a household device (vacuum cleaner) used for cleaning.

• Usage in a sentence: The scientist studied the behavior of particles in a vacuum.

• Common mistake: Many people spell vacuum incorrectly due to the unusual placement of double 'u'.

Q13. Answer: (c) The best part of something

The correct answer is '3' i.e. The best part of something.

Key Points

• The idiom "The icing on the cake" refers to something that makes a good situation even better or enhances an already positive experience.

• It is commonly used to describe an additional benefit or bonus that adds to the overall value or satisfaction.

• In this context, it does not relate to a difficult task, a sweet dessert, or a minor detail, but rather signifies the best part of something.

Correct Usage: Winning the championship was amazing, but getting the MVP award was the icing on the cake.

Additional Information

• Similar Idioms:

• "Cherry on top": Refers to an extra detail or feature that makes something already good even better.

• "Crowning glory": Refers to the most outstanding or beautiful part of something.

Q14. Answer: (c) Seer

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

Key Points

• The statement asks for a one-word substitute for "A person who can foresee future events."

• Let’s analyze the given options:

• Oxymoron: A figure of speech in which apparently contradictory terms appear in conjunction (e.g., "deafening silence").

• Cinephile: A person who loves watching films.

• Seer: A person who is able to see or predict future events.

• Pitcher: A container for holding and pouring liquids or a player in baseball who throws the ball to the batter.

• The word that matches the definition of "A person who can foresee future events" is 'Seer.'

Correct sentence: The correct one-word substitute for "A person who can foresee future events" is 'Seer.'.

Additional Information

• A seer is often used in literature and philosophy to describe someone with prophetic abilities or deep insight.

• The term is commonly associated with mysticism or supernatural foresight.

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Q15. Answer: (a) Beneficial

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

Key Points

• The word noxious refers to something harmful, toxic, or unhealthy.

• Its antonym should mean something that is helpful or advantageous.

• Among the options, the word beneficial directly contrasts the meaning of noxious, as it means something that provides benefits or is good for health or well-being.

Correct answer: Beneficial.

Additional Information

• Other options:

• Option 2: Toxic - Similar to noxious, it indicates harmful or poisonous substances.

• Option 3: Poisonous - Synonymous with noxious, refers to substances causing harm or death when ingested or contacted.

• Option 4: Unhealthy - Aligns with noxious, indicating something harmful to health.

Q16. Answer: (d) Beneficial

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

Key Points

• The word pernicious means highly harmful, destructive, or injurious.

• Options 1 (Harmful), 2 (Detrimental), and 3 (Injurious) are synonyms of pernicious.

• Option 4, Beneficial, is the antonym of pernicious as it means causing a positive or advantageous effect.

Correct sentence: The most appropriate antonym of pernicious is beneficial.

Additional Information

• Synonyms of Pernicious: Harmful, Detrimental, Injurious.

• Antonyms of Pernicious: Beneficial, Advantageous, Helpful.

Q17. Answer: (a) Lepidopterist

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

Key Points

• A Lepidopterist is a person who collects or studies butterflies and moths.

• Ornithologist: A person who studies birds.

• Entomologist: A person who studies insects.

• Biologist: A person who studies living organisms.

Correct sentence: A person who collects or studies butterflies is called a Lepidopterist.

Additional Information

• The word Lepidopterist comes from the order Lepidoptera, which includes butterflies and moths.

• Lepidopterists contribute to biodiversity research and conservation efforts.

Q18. Answer: (b) Submit the documents to the head of the department by the end of the week.

The correct answer is '2' i.e. Submit the documents to the head of the department by the end of the week..

Key Points

• The given sentence is in the passive voice, which is evident from the use of "Let the documents be submitted."

• To convert a passive voice sentence into active voice, we need to identify the subject performing the action and rewrite the sentence in the active structure.

• In this case, the active form of the sentence will directly instruct the subject to perform the action, which is "Submit the documents."

Correct sentence: Submit the documents to the head of the department by the end of the week.

Additional Information

• Passive Voice Structure: Subject + be + past participle + (by agent).

• Active Voice Structure: Subject + verb + object.

• Example of conversion:

• Passive: The letter was written by John.

• Active: John wrote the letter.

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Q19. Answer: (b) The student said that he had been practicing for the competition for months, but he was still nervous, as t...

The correct answer is '2' i.e. The student said that he had been practicing for the competition for months, but he was still nervous, as the other competitors were very skilled..

Key Points

• The given sentence is in direct speech and must be converted into indirect speech.

• The present perfect tense "I have been practicing" changes to the past perfect tense "he had been practicing" in indirect speech.

• The present tense "I am still nervous" changes to the past tense "he was still nervous".

• The present tense "the other competitors are very skilled" changes to the past tense "the other competitors were very skilled".

Correct sentence: The student said that he had been practicing for the competition for months, but he was still nervous, as the other competitors were very skilled..

Additional Information

• Rules for changing direct speech to indirect speech:

• Tense changes: Present tense changes to past tense, and past tense changes to past perfect tense.

• Pronouns: Pronouns are adjusted according to the speaker and listener in the sentence.

• Time expressions: Words like "now" and "today" change to "then" and "that day," respectively.

• Examples:

• Direct: She said, "I am happy today."

• Indirect: She said that she was happy that day.

• Direct: He said, "I have finished my homework."

• Indirect: He said that he had finished his homework.

Q20. Answer: (c) earn a decent living

The correct answer is '3' i.e. earn a decent living.

Key Points

• The sentence uses the phrase "In order to earning decent living," which is grammatically incorrect.

• The correct form should be "In order to earn a decent living," where "earn" is the base verb form that follows "in order to."

• The phrase "a decent living" is commonly used to describe a good standard of living through sufficient income.

Correct sentence: In order to earn a decent living, we need to have a good job with a lucrative salary.

Additional Information

• Common Errors in Similar Sentences:

• Using gerund (e.g., earning) incorrectly: "In order to" must be followed by the base verb (e.g., "earn").

• Incorrect word usage: Phrases like "life of decency" or "decently life" are grammatically incorrect in this context.

• Correct Usage:

• "Earn a decent living" is the standard and widely accepted phrase for expressing the idea of having sufficient income for a comfortable lifestyle.

Q21. Answer: (b) an MNC

The correct answer is '2' i.e. an MNC.

Key Points

• The article 'an' is used before words that begin with a vowel sound.

• In the sentence "My brother works for a MNC," the highlighted part uses the article 'a', which is incorrect because the abbreviation 'MNC' begins with a vowel sound ('em').

• The correct article to use is 'an', resulting in 'an MNC.'

Correct sentence: My brother works for an MNC.

Additional Information

• Articles:

• 'a' is used before words that begin with a consonant sound, e.g., "a book."

• 'an' is used before words that begin with a vowel sound, e.g., "an apple."

• The choice of article depends on the sound of the word following it, not necessarily the spelling.

• Abbreviations:

• When abbreviations begin with a vowel sound, the article 'an' is used, e.g., "an MBA."

• When abbreviations begin with a consonant sound, the article 'a' is used, e.g., "a CEO."

Q22. Answer: (c) Rice is eaten in many countries.

The correct answer is '3' i.e. Rice is eaten in many countries.

Key Points

• The given sentence is in the active voice, where the subject "People" performs the action "eat rice."

• To convert it into the passive voice, the object "rice" becomes the subject of the sentence, and the verb is changed to its passive form.

• In the passive voice, the correct form is "Rice is eaten," as the sentence describes a general fact in the present tense.

Correct transformation: Rice is eaten in many countries.

Additional Information

• Passive Voice Rule:

• Structure: Object (of active voice) + appropriate form of the verb "to be" + past participle of the main verb.

• Example: Active: People write books. → Passive: Books are written by people.

• Usage: Passive voice is often used when the focus is on the action or the object of the action rather than the subject performing it.

Q23. Answer: (a) The CEO announced, "The company lost a significant amount of revenue last year, and we are making difficult...

The correct answer is '1' i.e. The CEO announced, "The company lost a significant amount of revenue last year, and we are making difficult decisions to stay afloat.".

Key Points

• The sentence provided is in indirect speech, where the speaker (the CEO) is recounting a situation.

• To convert it into direct speech, we need to replicate the exact words spoken by the CEO. This includes quoting the CEO's statement directly within quotation marks.

• Option 1 correctly places the announcement in direct speech format, using the correct tense for the reported events:

• "The company lost a significant amount of revenue last year" (past simple for a completed event in the past).

• "We are making difficult decisions to stay afloat" (present continuous for an ongoing situation).

Correct sentence: The CEO announced, "The company lost a significant amount of revenue last year, and we are making difficult decisions to stay afloat.".

Additional Information

• Common Errors in Reporting Speech:

• Mixing up past perfect and past simple tenses unnecessarily.

• Incorrectly altering the present continuous tense to past continuous.

• Why Other Options Are Incorrect:

• Option 2: Uses "had lost" and "were making," which do not accurately reflect the CEO's direct words.

• Option 3: Uses "loses," which is grammatically incorrect for a past event.

• Option 4: Uses "the previous year" instead of "last year," which is a deviation from the direct speech format.

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

The correct answer is '1' i.e. P, Q, S, R.

Key Points

• To form a meaningful paragraph, the sequence of events must be logical and coherent.

• Sentence P introduces the initial action where the subject uses a trowel to loosen the soil.

• Sentence Q follows, as it describes making a hole and planting a seed, a natural progression after loosening the soil.

• Sentence S explains the next step, where water is added to saturate the soil, symbolizing the nurturing of life.

• Finally, sentence R concludes the paragraph, indicating the anticipation of the sprout's emergence.

Correct arrangement: P, Q, S, R.

Additional Information

• When solving rearrangement questions, look for:

• Logical flow of ideas or actions.

• Connectors or transition words that link sentences.

• The introductory sentence, which often sets the context.

• The concluding sentence, which provides closure.

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

The correct answer is '1' i.e. Q, P, R, S.

Key Points

• The correct arrangement of the sentences forms a coherent and meaningful paragraph explaining Sigmund Freud's psychoanalytic theory.

• Q introduces Sigmund Freud and his impact on the understanding of the human mind, acting as the starting point of the paragraph.

• P elaborates on Freud's belief about the id, ego, and superego, which are integral to his psychoanalytic theory.

• R explains the role of unconscious urges in influencing conscious behavior, connecting seamlessly with Freud's concept.

• S concludes the paragraph by discussing how Freud's paradigm explains psychological distress, thus completing the logical flow.

Correct arrangement: Q, P, R, S.

Additional Information

• When arranging sentence fragments into a paragraph, it is essential to identify the introduction, supporting details, and conclusion.

• Pay attention to logical connections and transitions between the parts to ensure the paragraph flows smoothly.

Q26. Answer: (a) KQTBJWGJI

The logic followed here is:

For GARDENING to LFWIJSNSL

Applying the +5 shift logic to the word FLOWERBED:

For FLOWERBED to ?

The resulting code is KQTBJWGJI.

Hence, the correct answer is "Option 1".

Q27. Answer: (a) LFZCPBSE

The logic followed here is:

For CHAIR to DIBJS

For TABLE to UBCMF

For KEYBOARD to ?

The resulting code is LFZCPBSE.

Hence, the correct answer is "Option 1".

Q28. Answer: (a) XPOEFSGVM

The logic followed here is:

For SPECTACULAR to TQFDUBDVMBS

For TQFDUBDVMBS to MAGNIFICENT

Similarly,

For WONDERFUL to ?

Thus, WONDERFUL is coded as XPOEFSGVM

Hence, the correct answer is "Option 1".

Q29. Answer: (b) I and II follow

Given,

Statement:

Urban areas have expanded rapidly, but public transport has not kept pace. As a result, traffic congestion and air pollution have increased. Experts recommend massive investments in metro lines, electric buses, and last-mile connectivity to address urban mobility challenges.

Conclusions:

I. The lack of adequate public transport contributes to pollution in cities - Follow (Because the statement explicitly mentions that the lack of public transport has resulted in increased air pollution).

II. Improving public transport can reduce urban mobility problems - Follow (Because experts recommend investments in public transport solutions, which implies that improving public transport can mitigate mobility issues).

III. Urban growth is always a negative phenomenon - Does not follow (Because the statement does not suggest that urban growth is inherently negative, but rather highlights the need for better infrastructure to support it).

So, Only conclusions I and II follow.

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Hence, the correct answer is "Option 2".

Q30. Answer: (b) Moderate-salary job with flexibility

Given,

Statement:

Nisha is choosing between two job offers. One offers a high salary but requires frequent travel and overtime. The other offers flexible hours, remote work, and a moderate salary. Nisha values work-life balance and spends weekends with her family. Which job should she take?

Analysis:

Based on the given information, Nisha values work-life balance and spending time with her family. Therefore, a job that aligns with these priorities would be more appropriate for her. The high-salary job involves frequent travel and overtime, which could negatively impact her work-life balance and family time. On the other hand, the moderate-salary job offers flexible hours and remote work, which would allow her to maintain her priorities and spend quality time with her family.

Hence, the correct answer is "Option 2".

Q31. Answer: (d) -105

Given Equation: 8 % 11 $ 10 % 3 = ?

BODMAS Rule:

Decoding the given information:

Alphabet	**^**	**@**	**%**	**$**
Meaning	÷	•	•	×

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

=> 8 - 11 × 10 - 3 = ?

=> 8 - 110 - 3 = ?

=> 8 - 113 = -105.

Hence, the correct option is "Option 4".

Q32. Answer: (c) 40

Given Equation: 6 # 15 # 14 # 5 = ?

BODMAS Rule:

Decoding the given information:

Alphabet	**~**	**$**	**%**	**#**
Meaning	÷	•	×	•

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

=> 6 + 15 + 14 + 5 = 40.

Hence, the correct option is "Option 3".

Q33. Answer: (c) 10

The logic followed here is:

Position of Ravi from the left = 12th

Position of Priya from the right = 8th

Total number of students = 30

Position of Priya from the left = Total students - Position of Priya from the right + 1

= 30 - 8 + 1 = 23

Number of students sitting between Ravi and Priya = Position of Priya from the left - Position of Ravi from the left - 1

= 23 - 12 - 1

= 10.

Hence, the correct answer is "Option 3".

Q34. Answer: (b) 39

The logic followed here is:

Position of Arun from the left = 23rd

Since there are 18 students between Arun and Bharat, Bharat's position from the left = (23 + 18 + 1) = 42nd

To find Bharat's position from the right, use the formula:

Position of Bharat from the right = Total students - Position of Bharat from the left + 1

= 80 - 42 + 1

= 39

Hence, the correct answer is "Option 2".

Q35. Answer: (c) Both I and II are strong

Given:

Statement :

Should free healthcare be provided to all citizens regardless of income?

Now,

Arguments :

I. Yes, healthcare is a basic right and should be accessible to all - True (Healthcare is indeed considered a fundamental right by many, and accessibility ensures equity and social welfare).

II. No, it will put excessive financial pressure on the government - True (Providing free healthcare to all citizens can significantly strain government resources and budgets).

So, Both I and II strengthen the statement.

Hence, the correct answer is "Option 3".

Q36. Answer: (a) Only I follows

Given:

Statement: Many people are complaining about adulterated milk being sold in the market, causing health issues.

Course of Action:

I. Conduct regular inspections and impose strict penalties on offenders - True (Because this action directly addresses the problem by creating a deterrent and ensuring the quality of milk being sold).

II. Ban the sale of milk in the market for six months - False (Because this is an extreme measure that would create unnecessary difficulties for consumers and traders instead of solving the root cause of the problem).

So, Only I follows.

Hence, the correct answer is "Option 1".

Q37. Answer: (a) T

The logic followed here is:

→ B + 3 = E,

→ E + 4 = I,

→ I + 5 = N,

→ N + 6 = T,

So, the next letter in the series will be "T"

Hence the correct answer is "Option 1".

Q38. Answer: (a) C

The logic followed here is:

→ S - 4 = O,

→ O - 4 = K,

→ K - 4 = G,

→ G - 4 = C,

So, the next letter in the series will be "C".

Hence the correct answer is "Option 1".

Q39. Answer: (d) Inform users transparently about the breach and the steps taken to fix it.

Given,

Statement:

An IT company discovers a minor security breach in one of its user databases. No major data has been compromised, but it could become serious if not handled properly. The management must decide how to proceed without causing unnecessary panic among users.

Options:

1. Hide the issue and hope it doesn't escalate - False (Because, hiding the issue does not ensure that the breach will not escalate and could compromise the company's reputation if discovered later).

2. Publicly announce a major crisis to alert all users - False (Because, announcing a major crisis unnecessarily could create panic among users, which is not ideal since the breach is minor).

3. Quietly patch the vulnerability and release a generic security update - False (Because, while this resolves the issue technically, it does not transparently inform users about the breach, which is important to maintain trust).

4. Inform users transparently about the breach and the steps taken to fix it - True (Because, this approach ensures transparency, builds trust with users, and demonstrates the company's responsibility in handling the situation).

Hence, the correct answer is "Option 4".

Q40. Answer: (d) BRAIN

Given Word: REASONABLE

1) ARSON → Can be formed

2) NOBLE → Can be formed

3) BOES → Can be formed

4) BRAIN → Cannot be formed (Because the letter 'I' is not in the given word)

Hence, the correct answer is "Option 4".

Q41. Answer: (a) Seating arrangement change and multiple versions of question paper

Given,

Statement:

A teacher notices that some students copy from each other during tests.

Now,

• Seating arrangement change and multiple versions of question paper – It is a preventive, fair, and ethical approach that maintains exam integrity without harming students emotionally or academically.

• Ignore it as minor – Allows the problem to continue and may encourage more cheating.

• Publicly shame the students caught – Unethical, damages student morale, and can create fear rather than discipline.

• Cancel all future tests – Overreaction that disrupts the learning and evaluation process.

So, Option I follows.

Hence, the correct answer is "Option 1".

Q42. Answer: (a) FE

The logic followed here is:

For AB to DC

Similarly,

For CD to ?

Thus, the missing pair is FE.

Hence, the correct answer is "Option 1".

Q43. Answer: (a) XP

The logic followed here is:

For BM to YN

For CK to ?

The resulting pair is XP.

Hence, the correct answer is "Option 1".

Q44. Answer: (b) 262

The logic followed here is:

Thus, the missing number in the series is 262.

Hence, the correct answer is "Option 2".

Q45. Answer: (b) 294

The logic followed here is:

Thus, the missing number in the series is 294.

Hence, the correct answer is Option 2.

Q46. Answer: (c) 450

The logic followed here is:

Thus, the missing number in the series is 450.

Hence, the correct answer is Option 3.

Q47. Answer: (b) 30 : 24

The logic follows here is:

Logic : 1st Number - 5 = 2nd Number.

Now,

Option 1) 18 : 13 → 18 - 5 = 13.

Option 2) 30 : 24 → 30 - 6 = 24.

Option 3) 34 : 29 → 34 - 5 = 29.

Option 4) 27 : 22 → 22 - 5 = 22.

Here, Option 2 (30 : 24) does not follows the logic.

Hence, the correct answer is "Option 2".

Q48. Answer: (a) Privately check in with them asking if they're okay and offering support

Given,

Statement:

You notice your co-worker is unusually quiet and withdrawn during meetings, after being very active previously. What is the most socially intelligent approach?

Solution:

The most socially intelligent approach is to privately check in with your co-worker, asking if they're okay and offering support. This shows empathy, respect for their privacy, and genuine concern for their well-being.

Publicly questioning or ignoring the situation could be perceived as insensitive or dismissive, while immediately reporting them to the manager may escalate the situation unnecessarily without addressing the root cause.

Hence, the correct answer is "Option 1".

Q49. Answer: (a) 1, 2, 3, 4, 5

The arrangement of the given words in the order in which they appear in an English dictionary is as shown below :

1. Commercial
2. Commission
3. Committee
4. Communication
5. Community

Hence, the correct answer is "1, 2, 3, 4, 5".

Q50. Answer: (c) 2,3,5,6,4,1

The arrangement of the given words in the order in which they appear in an English dictionary is as shown below :

2. Income
3. Indeed
5. Industry
6. Insect
4. Inside
1. Island

Hence, the correct answer is "2, 3, 5, 6, 4, 1".

Q51. Answer: (a) -16

Given:

$x + y + z = 0$

$x^2 + y^2 + z^2 = 32$

Formula used:

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

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Calculation:
=> $(0)^2 = 32 + 2(xy + yz + zx)$
=> $0 = 32 + 2(xy + yz + zx)$
=> $2(xy + yz + zx) = -32$
=> $xy + yz + zx = -16$
The value of xy + yz + zx is -16.

Q52. Answer: (d) Rs.25,384.62

Given:
The ratio of capitals of A, B, and C = 2 : 3 : 4
Total time = 2 years = 24 months
After 6 months, A increases his capital by 50%
Total profit = Rs. 90,000
Step 1: Assume the initial capitals
Let the initial capitals of A, B, and C be:
A = 2x, B = 3x, C = 4x
Step 2: Calculate time-wise investment of A
For the first 6 months, A invests 2x
After increasing by 50%, A's new capital = 2x + (50% of 2x) = 3x
So, for the remaining 18 months, A invests 3x
Time-weighted investment of A:
= (2x × 6) + (3x × 18)
= 12x + 54x
= 66x
Step 3: Calculate time-wise investment of B and C
B invests 3x for 24 months:
= 3x × 24 = 72x
C invests 4x for 24 months:
= 4x × 24 = 96x
Step 4: Find the ratio of profits
Ratio of profits = 66x : 72x : 96x
= 11 : 12 : 16
Step 5: Calculate A's share of profit
Sum of ratio parts = 11 + 12 + 16 = 39
A's profit share:
= (11 / 39) × 90,000
= Rs. 25,384.62 (approx.)
Therefore, A receives Rs. 25,384.62 as profit.

Q53. Answer: (c) 120/169

Shortcut Trick
Identify the expression as the Trigonometric Compound Angle Identity: sin(A + B) = sin A cos B + cos A sin B.
Using Pythagorean triplets (5, 12, 13): if cos A = 12/13, then sin A = 5/13.
Similarly, if sin B = 5/13, then cos B = 12/13.
Substitute values: (5/13 × 12/13) + (12/13 × 5/13) = 60/169 + 60/169 = 120/169.
Therefore The correct answer is 120/169.
Alternate Method
Given: cos A = 12/13 and sin B = 5/13
Formula: $\sin^2\theta + \cos^2\theta = 1$
=> $\sin A = \sqrt{(1 - \cos^2 A)} = \sqrt{(1 - (12/13)^2)}$
=> $\sin A = \sqrt{(1 - 144/169)} = \sqrt{(25/169)} = 5/13$
=> $\cos B = \sqrt{(1 - \sin^2 B)} = \sqrt{(1 - (5/13)^2)}$

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=> cos B = √(1 − 25/169) = √(144/169) = 12/13
=> Required expression = sin A cos B + cos A sin B
=> Required expression = (5/13 × 12/13) + (12/13 × 5/13)
=> Required expression = 60/169 + 60/169 = 120/169
Therefore The correct answer is 120/169.
Additional Information
Compound Angle Formulae
sin(A ± B) = sin A cos B ± cos A sin B and cos(A ± B) = cos A cos B -/+ sin A sin B.
Fundamental Identity
The core relation is $\sin^2\theta + \cos^2\theta = 1$, used to find one ratio if the other is known.
Common Pythagorean Triplets
Triplets like (3, 4, 5), (5, 12, 13), (8, 15, 17), and (7, 24, 25) help solve trigonometry problems faster.

Q54. Answer: (a) 4.17% profit

Given:
Cost price of 10 apples = Rs. 120
Cost price of 1 apple = Rs. 120 ÷ 10 = Rs. 12
Selling price of 8 apples = Rs. 100
Selling price of 1 apple = Rs. 100 ÷ 8 = Rs. 12.5
Formula used:
Profit/Loss Percentage = (Selling Price - Cost Price) ÷ Cost Price × 100
Calculations:
Cost Price of 1 apple = Rs. 12
Selling Price of 1 apple = Rs. 12.5
Profit = Rs. 12.5 - Rs. 12 = Rs. 0.5
=> Profit Percentage = (Rs. 0.5 ÷ Rs. 12) × 100
=> Profit Percentage = 4.17%
Therefore The correct answer is option (1).

Q55. Answer: (a) Rs. 5603.8

Given:
A + B = Rs. 9000
(4/11) × A = (3/5) × B
Formula used:
To solve, use the equation derived from the given ratios.
Calculation:
(4/11) × A = (3/5) × B
=> B = (4/11) × A ÷ (3/5)
=> B = (4 × 5) ÷ (11 × 3) × A
=> B = (20/33) × A
We know A + B = Rs. 9000
=> A + (20/33) × A = Rs. 9000
=> A × (1 + 20/33) = Rs. 9000
=> A × (33/33 + 20/33) = Rs. 9000
=> A × (53/33) = Rs. 9000
=> A = Rs. 9000 × (33/53)
=> A = Rs. 5603.8
Therefore The correct answer is option (1).

Q56. Answer: (c) 15

Given:
An amount doubles in 5 years with compound interest.
Find the time required for the amount to grow to 8 times its original value.

Formula used:

$A = P(1 + r)^t$

Where:

• A = Final amount

• P = Principal amount

• r = Rate of interest (constant)

• t = Time in years

Calculation:

Let the amount double in 5 years. So:

$2 = (1 + r)^5$

$\Rightarrow (1 + r) = 2^{(1/5)}$

To find the time for the amount to grow to 8 times:

$8 = (1 + r)^t$

$\Rightarrow 8 = (2^{(1/5)})^t$

$\Rightarrow 8 = 2^{(t/5)}$

$\Rightarrow t/5 = 3$ (as $8 = 2^3$)

$\Rightarrow t = 3 \times 5$

$\Rightarrow t = 15$

Therefore The correct answer is option (3).

Q57. Answer: (b) 250 km

Given:

The ratio of speeds of bike and car = 4 : 5

Distance traveled by bike = 160 km

Time taken by bike = 4 hours

Time taken by car = 5 hours

Formula used:

Speed = Distance ÷ Time

Distance = Speed × Time

Calculations:

Speed of bike = 160 ÷ 4 = 40 km/h

Speed of car = (Speed of bike) × (Ratio of car to bike)

$\Rightarrow$ Speed of car = 40 × (5 ÷ 4) = 50 km/h

Distance traveled by car in 5 hours = Speed × Time

$\Rightarrow$ Distance = 50 × 5 = 250 km

Therefore The correct answer is option (2) 250 km.

Q58. Answer: (a) 56

Given:

Number of students (n) = 30

Initial average marks = 55

Marks of the replaced student = 40

Marks of the new student = 70

Formula used:

New average = Total marks of all students/Number of students

Calculation:

Total marks of all students = Initial average × Number of students

$\Rightarrow$ Total marks = 55 × 30 = 1650

After replacement:

New total marks = Total marks - Marks of replaced student + Marks of new student

$\Rightarrow$ New total marks = 1650 - 40 + 70 = 1680

New average = New total marks/Number of students

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=> New average = 1680 ÷ 30

=> New average = 56

Therefore The correct answer is option (1).

Q59. Answer: (b) 184

Given:

Required number leaves remainder 4 when divided by 9, 12 and 15

Concept:

If a number leaves remainder 4 in each case, then (Number − 4) is divisible by 9, 12 and 15

Calculation:

Find LCM of 9, 12 and 15

9 = 3 × 3

12 = 2 × 2 × 3

15 = 3 × 5

LCM = 2 × 2 × 3 × 3 × 5

=> LCM = 180

Smallest number = 180 + 4

=> 184

Therefore The required smallest number = 184

Q60. Answer: (b) 32%

Shortcut Trick

For two successive percentage increases of x% and y%, use the formula:

Net % Increase = x + y + (x × y / 100)%

Given: x = 20 and y = 10.

Net % Increase = 20 + 10 + (20 × 10 / 100) = 30 + 2 = 32%

Therefore The correct answer is 32%.

Alternate Method

Given:

First increase = 20%

Second increase = 10%

Formula: Final Value = Initial Value × (1 + r1/100) × (1 + r2/100)

=> Let the initial price of the shirt be 100.

=> Price after the first increase of 20% = 100 + (20/100 × 100) = 100 + 20 = 120.

=> Price after the second increase of 10% = 120 + (10/100 × 120) = 120 + 12 = 132.

=> Net increase in price = 132 − 100 = 32.

=> Net percentage increase = (32 / 100) × 100 = 32%.

Therefore The correct answer is 32%.

Additional Information

Successive Percentage Change

When a value is changed by a% and then by b%, the net change is (a + b + ab/100)%. Use a positive sign for increase and a negative sign for decrease.

Fraction Method

Convert percentages to fractions: 20% = 1/5 (ratio 5:6) and 10% = 1/10 (ratio 10:11). Net ratio = (5×10) : (6×11) = 50 : 66. Increase = 16/50 × 100 = 32%.

Successive Discount

If two successive discounts of d1% and d2% are given, the equivalent single discount is (d1 + d2 − d1d2/100)%.

Q61. Answer: (a) 3.6 days

Given:

A can complete the task in 10 days.

B can complete the task in 15 days.

A works alone for 4 days, then B joins A.

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Formula used:
Work completed = (Work rate of A × Days worked by A) + (Work rate of A and B together × Remaining days).
Calculation:
Work rate of A = 1/10 (since A completes 1 task in 10 days).
Work rate of B = 1/15 (since B completes 1 task in 15 days).
Work done by A in 4 days = (1/10) × 4 = 4/10 = 2/5.
Remaining work = 1 - 2/5 = 3/5.
Combined work rate of A and B = (1/10) + (1/15) = (3 + 2)/30 = 5/30 = 1/6.
Time taken to complete remaining work = Remaining work ÷ Combined work rate.
=> Time = (3/5) ÷ (1/6).
=> Time = (3/5) × (6/1) = 18/5 = 3.6 days.
Therefore The correct answer is option (1): 3.6 days.

Q62. Answer: (c) Rs. 3,200

Given:
Marked Price (M.P.) = Rs. 5,000
Discount = 20%
Profit = 25%
Cost Price (C.P.) = ?
Formula used:
Selling Price (S.P.) = Marked Price × (1 - Discount/100)
S.P. = Cost Price × (1 + Profit/100)
Calculation:
S.P. = 5000 × (1 - 20/100)
=> S.P. = 5000 × 0.8
=> S.P. = Rs. 4,000
Now, S.P. = C.P. × (1 + Profit/100)
=> 4000 = C.P. × (1 + 25/100)
=> 4000 = C.P. × 1.25
=> C.P. = 4000 / 1.25
=> C.P. = Rs. 3,200
Therefore The original cost price of the fan is Rs. 3,200. The correct answer is option (3).

Q63. Answer: (c) 10%

Shortcut Trick
Simple Interest (SI) for 2 years (6 − 4) = 7,680 − 6,720 = Rs. 960
SI for 1 year = 960 ÷ 2 = Rs. 480
Principal (P) = Amount in 4 years − SI for 4 years = 6,720 − (480 × 4) = Rs. 4,800
Annual Rate (R) = (SI for 1 year ÷ Principal) × 100 = (480 ÷ 4,800) × 100 = 10%
Therefore The correct answer is 10%.
Alternate Method
Given:
Amount after 4 years (A4) = Rs. 6,720
Amount after 6 years (A6) = Rs. 7,680
Formula Used:
Amount = Principal (P) + Simple Interest (SI)
SI = (P × R × T) ÷ 100
Calculations:
=> SI for 2 years = A6 − A4 = 7,680 − 6,720 = Rs. 960
=> SI for 1 year = 960 ÷ 2 = Rs. 480
=> SI for 4 years = 480 × 4 = Rs. 1,920
=> Principal (P) = A4 − SI4 = 6,720 − 1,920 = Rs. 4,800

=> Rate (R) = (SI for 1 year × 100) ÷ P
=> R = (480 × 100) ÷ 4,800
=> R = 48,000 ÷ 4,800 = 10%
Therefore The correct answer is 10%.
Additional Information
Simple Interest Constant Property
In Simple Interest, the interest earned remains the same every year as it is always calculated on the original Principal.
Finding Rate of Interest
The annual rate can be found using R = (SI for 1 year × 100) ÷ P, where P is the initial sum.
Amount and Principal Relationship
Amount (A) = P × [1 + (R × T)/100]. To find P when two amounts are given, subtract the respective SI from the total amount.

Q64. Answer: (b) 4

Let the given expression be:
$x = \sqrt{(12 + \sqrt{(12 + \sqrt{(12 + \dots)})})}$
Observe the repeating pattern
The expression inside the square root repeats infinitely, so:
$x = \sqrt{(12 + x)}$
Square both sides
$x^2 = 12 + x$
Rearrange the equation
$x^2 - x - 12 = 0$
Solve the quadratic equation
$(x - 4)(x + 3) = 0$
So, $x = 4$ or $x = -3$
Reject the negative value
Since the square root of a number cannot be negative, $x = -3$ is not acceptable.
Final Answer:
The value of $\sqrt{(12 + \sqrt{(12 + \sqrt{(12 + \dots)})})}$ is 4.

Q65. Answer: (b) 81%

Shortcut Trick
New Acid Percentage = Initial Percentage × (1 − Replacement Volume ÷ Total Volume)
New Acid Percentage = 90% × (1 − 8 ÷ 80)
New Acid Percentage = 90% × (1 − 1/10)
New Acid Percentage = 90% × 0.9 = 81%
Therefore The correct answer is 81%.
Alternate Method
Given:
Total volume of acid solution = 80 litres
Initial concentration of pure acid = 90%
Volume removed and replaced with pure water = 8 litres
Formula Used:
Final Quantity = Initial Quantity × (1 − x/V)
Calculations:
=> Initial amount of pure acid = 90% of 80 = (90 ÷ 100) × 80 = 72 litres
=> Amount of pure acid in 8 litres removed = 90% of 8 = (90 ÷ 100) × 8 = 7.2 litres
=> Pure acid remaining in the drum = 72 − 7.2 = 64.8 litres
=> Total volume of solution after adding pure water = (80 − 8) + 8 = 80 litres
=> New percentage of pure acid = (Amount of remaining acid ÷ Total volume) × 100
=> New percentage = (64.8 ÷ 80) × 100 = 648 ÷ 8 = 81%
Therefore The correct answer is 81%.

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Additional Information

Successive Replacement Formula

If 'x' volume is replaced 'n' times from a total volume 'V', the final quantity of the original liquid is $Q_f = Q_i \times (1 - x/V)^n$.

Dilution Concept

When pure water is added to a mixture, the quantity of the solute (acid) remains constant, but its percentage decreases as the total solution volume increases.

Concentration Ratio

The ratio of the final concentration to the initial concentration is equal to the ratio of the volume of acid remaining to the initial volume of acid.

Q66. Answer: (a) 10 cm

Given:

Length of the chord = 16 cm

Perpendicular distance from the center to the chord = 6 cm

Formula used:

Radius (r) = √((Length of the chord/2)² + (Perpendicular distance)²)

Calculation:

$r = \sqrt{((16/2)^2 + 6^2)}$

$\Rightarrow r = \sqrt{(8^2 + 6^2)}$

$\Rightarrow r = \sqrt{(64 + 36)}$

$\Rightarrow r = \sqrt{100}$

$\Rightarrow r = 10$ cm

Therefore The correct answer is option (1).

Q67. Answer: (c) 27

Given:

Radius of original sphere (R) = 3 cm

Radius of smaller sphere (r) = 1 cm

Formula used:

Volume of a sphere = $(4/3) \times \pi \times r^3$

Number of smaller spheres = Volume of original sphere / Volume of one smaller sphere

Calculation:

Volume of original sphere = $(4/3) \times \pi \times (3)^3$

$\Rightarrow$ Volume of original sphere = $(4/3) \times \pi \times 27$

$\Rightarrow$ Volume of original sphere = 36π

Volume of one smaller sphere = $(4/3) \times \pi \times (1)^3$

$\Rightarrow$ Volume of one smaller sphere = $(4/3) \times \pi \times 1$

$\Rightarrow$ Volume of one smaller sphere = $(4/3)\pi$

Number of smaller spheres = $(36\pi) / ((4/3)\pi)$

$\Rightarrow$ Number of smaller spheres = $36 \times (3/4)$

$\Rightarrow$ Number of smaller spheres = 27

Therefore The correct answer is option (3).

Q68. Answer: (a) 2/3

Given:

A solid hemispherical block is melted and recast into a cylinder of the same radius.

Radius of hemisphere = r

Formula used:

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

Volume of cylinder = $\pi r^2 h$

Since the volume of the hemisphere is equal to the volume of the cylinder:

$(2/3)\pi r^3 = \pi r^2 h$

Calculation:

(2/3)πr³ = πr²h

=> h = (2/3)r

Therefore The height of the cylinder is (2/3) of the radius of the hemisphere.

The correct answer is Option (1).

Q69. Answer: (b) 8.45

Given:

(3.5)² + √1.44 - (2.5 ÷ 0.5)

Formula used:

Basic arithmetic operations:

• Square: (a)² = a × a

• Square root: √a = number whose square equals a

• Division: a ÷ b = quotient of a and b

Calculation:

(3.5)² + √1.44 - (2.5 ÷ 0.5)

=> (3.5 × 3.5) + √1.44 - (2.5 ÷ 0.5)

=> 12.25 + 1.2 - 5

=> 12.25 + 1.2 = 13.45

=> 13.45 - 5 = 8.45

Therefore The correct answer is option (2).

Q70. Answer: (a) 2√5

Given Expression:

1 / (√5 − 2) + 1 / (√5 + 2)

Calculation:

Taking the sum:

= [(√5 + 2) + (√5 − 2)] / [(√5 − 2)(√5 + 2)]

= (2√5) / (5 − 4)

= 2√5 / 1

= 2√5

The simplified value of the given expression is 2√5.

Q71. Answer: (a) y = -x + 12

Given:

The line passes through the point (5, 7)

Slope of the line = −1

Calculation:

The general form of a straight line is:

y = mx + c

Substitute the given slope:

y = −x + c

Since the line passes through (5, 7), substitute x = 5 and y = 7:

7 = −5 + c

c = 12

Equation of the line:

y = −x + 12

Correct option: y = −x + 12

Q72. Answer: (a) k > 8

Given:

The quadratic equation is x² + kx + 16 = 0.

For the roots to be real and distinct:

Discriminant (D) > 0

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Formula used:
Discriminant (D) = $b^2 - 4ac$
Here, a = 1, b = k, and c = 16.
Calculation:
$D = k^2 - 4 \times 1 \times 16$
$\Rightarrow D = k^2 - 64$
For real and distinct roots, D > 0:
$\Rightarrow k^2 - 64 > 0$
$\Rightarrow (k - 8)(k + 8) > 0$
The critical points are k = 8 and k = -8.
Using the sign analysis of the quadratic inequality:
• For $(k - 8)(k + 8) > 0$, $k < -8$ or $k > 8$.
Therefore The correct answer is option (1): $k > 8$.

Q73. Answer: (d) $(\tan^2(x)(1 - \sin(x)))/(1 + \sin(x))$

Step 1: Simplify the first fraction
Given expression:
$(1 + \tan^2 x) / (1 + \cot^2 x)$
Using identities:
$1 + \tan^2 x = \sec^2 x$
$1 + \cot^2 x = \csc^2 x$
So, the expression becomes:
$\sec^2 x / \csc^2 x$
Now,
$\sec x = 1 / \cos x$
$\csc x = 1 / \sin x$
$\Rightarrow \sec^2 x / \csc^2 x = (1 / \cos^2 x) \div (1 / \sin^2 x)$
$\Rightarrow (1 / \cos^2 x) \times (\sin^2 x / 1)$
$\Rightarrow \sin^2 x / \cos^2 x$
$\Rightarrow \tan^2 x$
Step 2: Simplify the second fraction
$(\sec x - \tan x) / (\sec x + \tan x)$
Multiply numerator and denominator by $(\sec x - \tan x)$
Denominator:
$(\sec x + \tan x)(\sec x - \tan x)$
$\Rightarrow \sec^2 x - \tan^2 x$
Using identity:
$\sec^2 x - \tan^2 x = 1$
So denominator = 1
Numerator:
$(\sec x - \tan x)^2$
Substitute values:
$\sec x = 1 / \cos x$
$\tan x = \sin x / \cos x$
$\Rightarrow ((1 - \sin x) / \cos x)^2$
$\Rightarrow (1 - \sin x)^2 / \cos^2 x$
Now,
$\cos^2 x = 1 - \sin^2 x$
$\Rightarrow \cos^2 x = (1 - \sin x)(1 + \sin x)$
So,
$(1 - \sin x)^2 / [(1 - \sin x)(1 + \sin x)]$
Cancel $(1 - \sin x)$

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=> (1 − sin x) / (1 + sin x)

Step 3: Final Result

Multiply both simplified parts:

$\tan^2 x \times (1 - \sin x) / (1 + \sin x)$

Therefore Final Answer = $\tan^2 x (1 - \sin x) / (1 + \sin x)$

Q74. Answer: (a) 576/625

Given:

$\sin\theta = 7 / 25$

Calculation:

Using the identity:

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

So,

$\cos^2\theta = 1 - \sin^2\theta$

$\cos^2\theta = 1 - (7 / 25)^2$

$\cos^2\theta = 1 - 49 / 625$

$\cos^2\theta = (625 - 49) / 625$

$\cos^2\theta = 576 / 625$

Correct Answer: 576 / 625

Correct Option: Option 1

Q75. Answer: (d) 1

Shortcut Trick

Given tan A = 1, we know that A = 45° since tan 45° = 1.

The expression 2 sin A cos A is the trigonometric identity for sin 2A.

Substituting A = 45°: 2 sin 45° cos 45° = sin(2 × 45°) = sin 90°.

Since sin 90° = 1, the required value is 1.

Therefore The correct answer is 1.

Alternate Method

Given: In ΔABC, angle B = 90° and tan A = 1.

Formula Used: tan A = Perpendicular / Base; sin A = P / H; cos A = B / H

=> tan A = BC / AB = 1. Let BC = 1 and AB = 1.

=> By Pythagoras Theorem: $AC = \sqrt{(AB^2 + BC^2)}$

=> $AC = \sqrt{(1^2 + 1^2)} = \sqrt{2}$.

=> sin A = BC / AC = 1 / √2.

=> cos A = AB / AC = 1 / √2.

=> 2 sin A cos A = 2 × (1 / √2) × (1 / √2).

=> 2 sin A cos A = 2 × (1 / 2) = 1.

Therefore The correct answer is 1.

Additional Information

Double Angle Identities

The expression 2 sin θ cos θ is identical to sin 2θ, which simplifies calculations for specific angles.

Standard Trigonometric Values

For θ = 45°, sin 45° = 1/√2, cos 45° = 1/√2, and tan 45° = 1.

Pythagorean Identity

For any angle A, the fundamental identity $\sin^2 A + \cos^2 A = 1$ always holds true.

Right Triangle Properties

In an isosceles right triangle (where tan A = 1), the two acute angles are both 45° and the legs are equal.

Q76. Answer: (a) Fencing

The correct answer is Fencing.

Key Points

• C. A. Bhavani Devi is India's first-ever fencer to qualify for the Olympics.

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• She represented India in the Tokyo Olympics 2020 in the women's individual sabre category.

• Bhavani Devi made history by winning her first match against Tunisia's Nadia Ben Azizi in the Tokyo Olympics, marking a significant milestone for Indian fencing.

• She has won several medals at international fencing competitions, including the Commonwealth Championship and Asian Championships.

• She was awarded the Arjuna Award in 2022 for her remarkable achievements in fencing.

Additional Information

• Shooting

• Shooting is a precision-based sport involving firearms like rifles, pistols, and shotguns.

• India has produced world-class shooters, including Abhinav Bindra, who won India's first individual Olympic gold medal in the 2008 Beijing Olympics.

• The National Rifle Association of India (NRAI) governs the sport in India.

• Events like 10m air rifle, 10m air pistol, and trap shooting are popular categories in international shooting championships.

• Badminton

• Badminton is a racquet sport played using a shuttlecock across a net.

• India has excelled in badminton at the international level, with stars like P. V. Sindhu, Saina Nehwal, and Kidambi Srikanth winning medals in Olympics and World Championships.

• The Badminton World Federation (BWF) is the governing body for the sport.

• It is one of the most popular sports in India, with several domestic and international tournaments held annually.

• Gymnastics

• Gymnastics is a sport involving physical exercises that require strength, flexibility, balance, and coordination.

• India's Dipa Karmakar made history in gymnastics by becoming the first Indian female gymnast to qualify for the Olympics in 2016.

• Artistic, rhythmic, and trampoline gymnastics are the primary categories in international competitions.

• The sport is governed globally by the Fédération Internationale de Gymnastique (FIG).

Q77. Answer: (b) Manan Kumar Mishra

The correct answer is Manan Kumar Mishra.

Key Points

• Manan Kumar Mishra is a senior advocate and has served as the Chairman of the Bar Council of India (BCI) multiple times, including his tenure as of 31st May 2025.

• He has played a pivotal role in framing and implementing reforms in the legal education system in India.

• The Bar Council of India, under his leadership, has taken strong measures to regulate and ensure the quality of legal education and the ethical standards of legal practitioners.

• Manan Kumar Mishra has been actively involved in resolving issues related to the legal profession, such as advocating for better welfare measures for lawyers.

• He has also been vocal about strengthening the independence of the judiciary and the legal profession in India.

Additional Information

• Ashok Arora

• Ashok Arora is a senior advocate and former Secretary of the Supreme Court Bar Association (SCBA).

• He is known for his legal acumen and contributions to discussions on judicial reforms in India.

• However, he has not held the position of Chairman of the Bar Council of India.

• Vikas Singh

• Vikas Singh is a prominent senior advocate and has served as the President of the Supreme Court Bar Association (SCBA).

• He is well-known for his leadership in addressing issues faced by members of the legal profession.

• He has not served as the Chairman of the Bar Council of India.

• Dushyant Dave

• Dushyant Dave is a senior advocate and a former President of the Supreme Court Bar Association (SCBA).

• He is recognized for his expertise in constitutional and commercial law and his strong stance on judicial independence.

• He has not held the position of Chairman of the Bar Council of India.

• The Bar Council of India (BCI)

• The Bar Council of India is a statutory body established under the Advocates Act, 1961.

• It regulates legal education and the profession of law in India.

• The BCI prescribes standards for legal education, organizes All India Bar Examinations (AIBE), and ensures ethical conduct among lawyers.

• The Chairman of the BCI is elected from among its members, who are representatives of State Bar Councils.

Q78. Answer: (a) New Shop

The correct answer is New Shop.

Key Points

• The Women Entrepreneurship Platform (WEP) launched EmpowHER Biz - Sapno Ki Udaan in partnership with New Shop to enhance entrepreneurial opportunities for women in India.

• This initiative aims to foster women's participation in the entrepreneurial ecosystem by providing them with the necessary resources, mentorship, and training.

• New Shop is a retail and convenience store chain that supports small businesses and promotes women entrepreneurs in the retail and franchising sectors.

• As part of this partnership, WEP and New Shop will focus on building a network of women entrepreneurs through localized business opportunities and franchise models.

• This program aligns with the Government of India’s vision to empower women economically and socially, ensuring their contribution to the nation's progress.

Additional Information

• TATA Trusts

• TATA Trusts is one of India’s oldest philanthropic organizations, working in areas such as education, healthcare, rural livelihoods, and women's empowerment.

• It often supports initiatives targeting social welfare and inclusive growth but is not associated with the EmpowHER Biz program.

• Azad Foundation

• Azad Foundation is a non-profit organization focused on empowering resource-poor women through livelihoods training, such as becoming professional chauffeurs.

• While it works on women’s empowerment, it is not linked with the Women Entrepreneurship Platform or the EmpowHER Biz program.

• JIO World

• JIO World is a part of Reliance Industries Limited and focuses on creating multi-use infrastructure spaces, such as convention centers and cultural hubs.

• It does not contribute directly to entrepreneurship programs like WEP’s EmpowHER Biz initiative.

• About Women Entrepreneurship Platform (WEP)

• Launched by NITI Aayog, WEP serves as a unified access portal for women entrepreneurs in India.

• It brings together stakeholders to provide services such as funding, mentorship, and market linkages to aspiring and existing women entrepreneurs.

• The platform focuses on creating an enabling ecosystem for women to succeed in diverse fields of entrepreneurship.

Q79. Answer: (a) To create and manage an integrated geospatial infrastructure for governance and development

The correct answer is To create and manage an integrated geospatial infrastructure for governance and development.

Key Points

• The National Geospatial Mission aims to establish an integrated geospatial infrastructure to support governance and development activities across India.

• It focuses on ensuring geospatial data availability, accessibility, and usability for various stakeholders, including the government, private sector, and academia.

• The mission is designed to align with the vision of Digital India, promoting the use of geospatial technologies for decision-making and planning.

• It emphasizes the creation of a unified geospatial ecosystem by utilizing advanced technologies like Geographic Information Systems (GIS), remote sensing, and satellite imagery.

• The mission also promotes innovation and entrepreneurship in the geospatial domain, fostering the growth of India’s geospatial industry.

Additional Information

• Option 2: To promote satellite launch services for private companies

• India has been actively promoting its satellite launch capabilities through organizations like ISRO (Indian Space Research Organisation).

• The IN-SPACe (Indian National Space Promotion and Authorization Center) was established to encourage private sector participation in space activities, including satellite launches.

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• However, this is not the primary focus of the National Geospatial Mission, as its objective is related to geospatial data and infrastructure, not satellite launch services.

• Option 3: To provide free GPS services to rural areas

• GPS (Global Positioning System) services are already accessible to the public across India, including rural areas, through smartphones and other devices.

• While geospatial technologies can enhance rural development, providing free GPS services is not the specific aim of the National Geospatial Mission.

• Option 4: To monitor climate change patterns through satellite data

• Satellite data is indeed critical for monitoring climate change patterns, and India has several missions like INSAT, RISAT, and Cartosat dedicated to such objectives.

• However, the National Geospatial Mission focuses broadly on geospatial infrastructure for governance and development, not exclusively on climate change monitoring.

Q80. Answer: (a) Global Findex 2025

The correct answer is Global Findex 2025.

Key Points

• The Global Findex is a comprehensive database measuring how adults worldwide save, borrow, make payments, and manage risk.

• The 2025 edition of the Global Findex is expected to highlight the increase in account ownership in India to 89% since 2011.

• India's financial inclusion initiatives, such as PMJDY (Pradhan Mantri Jan Dhan Yojana), have significantly contributed to this milestone by providing banking access to millions of unbanked citizens.

• The Global Findex is published by the World Bank every three years and provides insights into global trends in financial inclusion and the use of financial services.

• The report is based on surveys covering over 140 economies and serves as a critical resource for policymakers, researchers, and stakeholders aiming to enhance financial inclusion.

Additional Information

• Fiscal Health Index 2025

• The Fiscal Health Index is used to measure a government's financial health, including fiscal deficit, debt sustainability, and revenue generation.

• It is not directly related to financial inclusion or account ownership data.

• This index is more relevant for analyzing macroeconomic stability and fiscal management of economies rather than individual-level financial service usage.

• Gross Financial Index 2025

• The term "Gross Financial Index" does not refer to a globally recognized or widely used financial measurement tool.

• It appears to be a hypothetical or less commonly known term, and no credible sources attribute it to financial inclusion or account ownership tracking.

• National Strategy for Financial Education

• The National Strategy for Financial Education is an initiative by countries like India to promote financial literacy and education among citizens.

• In India, the Reserve Bank of India (RBI) launched the National Strategy for Financial Education (NSFE) to improve financial awareness and literacy.

• While it plays a critical role in encouraging financial inclusion, it is not an index or report measuring account ownership statistics.

• Main Theme: Financial Inclusion in India

• India has made remarkable progress in financial inclusion, driven by initiatives like the PMJDY, digital payment systems, and Aadhaar-linked banking.

• Global Findex reports have consistently highlighted India's achievements in expanding access to financial services over the years.

• Such data is instrumental in shaping policies aimed at fostering inclusive growth and reducing poverty through financial empowerment.

Q81. Answer: (b) Cheetah

The correct answer is Cheetah.

Key Points

• Project Cheetah is the world's first inter-continental large wild carnivore translocation project, initiated in India.

• The project aims to reintroduce African cheetahs into India, where the species became extinct in 1952 due to habitat loss and overhunting.

• In September 2022, eight African cheetahs were brought to Kuno National Park in Madhya Pradesh from Namibia under this ambitious conservation program.

• The project is part of India's broader wildlife restoration efforts and is executed in collaboration with international organizations and governments, including Namibia and South Africa.

• The goal is to establish a viable and secure population of cheetahs in India and restore their ecological role as top predators in the grassland and open forest ecosystems.

Additional Information

• Lion

• Lions are found in India primarily in the Gir Forest National Park, Gujarat, and are classified as Asiatic lions (Panthera leo persica).

• India has undertaken significant conservation efforts under the "Project Lion," focusing on habitat development, reducing human-lion conflict, and increasing their population.

• Unlike cheetahs, lions are not part of any inter-continental translocation project.

• Crocodile

• Crocodiles are large aquatic reptiles that inhabit rivers, wetlands, and coastal regions.

• In India, species like the mugger crocodile, saltwater crocodile, and gharial are found.

• India has conservation programs like the Gharial Conservation Project to protect the critically endangered gharial population.

• These efforts focus on breeding and reintroduction within their native ranges rather than inter-continental relocation.

• Panther

• The term "panther" often refers to melanistic leopards or jaguars, which are found in various parts of the world, including India.

• Leopards are widely distributed across India and are not subject to inter-continental translocation projects.

• Conservation efforts for leopards in India focus on mitigating human-wildlife conflict, habitat conservation, and anti-poaching measures.

• Main Theme: Project Cheetah

• This project is a significant step in wildlife conservation and biodiversity restoration.

• It also aims to raise awareness about the importance of protecting grassland ecosystems, which are often overlooked in conservation efforts.

• The initiative highlights India's commitment to global biodiversity goals under the Convention on Biological Diversity (CBD).

Q82. Answer: (d) Manu Joseph

The correct answer is Manu Joseph.

Key Points

• Manu Joseph is the author of the critically acclaimed novel "The Illicit Happiness of Other People", which was published in 2012.

• The book is set in Chennai, India, during the 1990s and is a blend of dark comedy, philosophy, and psychological drama.

• It explores themes of family dynamics, mental health, and existential questions through the life of the protagonist, Ousep Chacko, and his family.

• Manu Joseph is an Indian journalist and novelist, known for his sharp wit and incisive commentary in both fiction and non-fiction.

• His other notable works include "Serious Men" and "Miss Laila, Armed and Dangerous", which have also received critical acclaim.

Additional Information

• Janice Pariat:

• Janice Pariat is an Indian author and poet known for her debut book "Boats on Land", which won the Sahitya Akademi Young Writer Award and the Crossword Book Award for Fiction.

• Her other works include "Seahorse" and "Everything the Light Touches".

• Janice's writing often explores themes of memory, culture, and the natural world, with a poetic and lyrical narrative style.

• Madhuri Vijay:

• Madhuri Vijay is an Indian author known for her debut novel "The Far Field", which won the JCB Prize for Literature in 2019.

• The book is set in Kashmir and deals with complex themes such as personal loss, political turmoil, and the search for identity.

• Madhuri's writing is praised for its vivid descriptions and nuanced exploration of human relationships.

• Neel Mukherjee:

• Neel Mukherjee is an Indian author recognized for his novels such as "The Lives of Others" and "A State of Freedom".

• "The Lives of Others" was shortlisted for the 2014 Man Booker Prize and explores the socio-economic and political changes in Bengal through the lens of a family saga.

• His works often deal with themes of societal inequality, migration, and the human condition.

• Theme of the Question:

• "The Illicit Happiness of Other People" delves into philosophical and existential themes, reflecting on human desires, morality, and the pursuit of happiness.

• The book combines elements of dark humor and tragedy, making it a unique and thought-provoking read.

Q83. Answer: (c) Maharashtra

The correct answer is Maharashtra.

Key Points

• Abhanga Vanis are devotional folk songs sung in praise of Lord Vitthal, a deity worshipped in Maharashtra, especially in Pandharpur.

• The term "Abhanga" translates to "unbroken" and signifies the unbroken devotion expressed through these songs.

• Abhanga Vanis were composed by saints like Sant Tukaram, Sant Namdev, and other Bhakti movement leaders in Maharashtra.

• These songs are a significant part of the Warkari sect, which is a spiritual movement dedicated to Lord Vitthal.

• The Abhanga tradition is deeply rooted in the Marathi language, reflecting the rich cultural and religious heritage of the state.

Additional Information

• Manipur

• Manipur is known for its rich cultural heritage and folk music, including the Raslila, which is associated with Lord Krishna.

• Folk songs in Manipur often depict themes of nature, love, and spirituality and are accompanied by traditional instruments like the Pena.

• West Bengal

• Folk music of West Bengal includes Baul songs, which emphasize mysticism and spirituality.

• Baul singers use simple, heart-touching lyrics and melodies to express their devotion to God and humanity.

• Other popular folk traditions include Bhatiyali, Kirtan, and Chhau dance songs.

• Tamil Nadu

• Tamil Nadu is famous for its traditional Carnatic music and folk genres such as Villupattu, a narrative style of singing.

• Folk songs in Tamil Nadu often reflect themes of heroism, devotion, and everyday rural life.

• The state’s musical heritage is heavily influenced by temple culture and Tamil literature.

• Main Theme

• The question pertains to the cultural heritage of Indian states, with a focus on folk music traditions.

• Folk music across India varies significantly depending on regional languages, traditions, and religious practices.

• These musical forms are often used as a means of storytelling, expressing devotion, and preserving cultural identity.

Q84. Answer: (b) Uttarakhand

The correct answer is Uttarakhand.

Key Points

• Joda Dance is a traditional folk dance performed in the Indian state of Uttarakhand.

• This dance is predominantly celebrated during the full moon night around Holi, symbolizing cultural and seasonal festivities.

• The dance is an expression of joy and unity among the local communities, emphasizing the cultural richness of Uttarakhand.

• It is performed in groups with synchronized movements and rhythmic patterns, accompanied by folk music.

• Joda Dance is often considered a way of celebrating the arrival of spring and fostering community bonding.

Additional Information

• Option 1: Goa

• Goa is known for its vibrant dance forms such as Dekhni, Fugdi, and Corridinho.

• Dekhni represents a blend of western and Indian cultural influences, often performed at festive occasions.

• Fugdi is a traditional Goan folk dance performed by women in a circular or line formation during religious festivals.

• Corridinho, a Portuguese-inspired dance form, reflects Goa's colonial heritage.

• Option 3: Andhra Pradesh

• Andhra Pradesh has a rich tradition of dance forms like Kuchipudi, one of the eight classical dance forms of India.

• Kuchipudi combines dance, music, and acting, often depicting stories from Hindu mythology.

• Other folk dances of Andhra Pradesh include Veeranatyam, Burra Katha, and Lambadi.

• These dances are performed during religious and social occasions, reflecting the state's cultural diversity.

• Option 4: Karnataka

• Karnataka is famous for its classical dance form Bharatanatyam, which originated in Tamil Nadu but is widely practiced in

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Karnataka.

• Yakshagana, a traditional theater form combining dance, music, and storytelling, is prominent in coastal Karnataka.

• Other folk dances include Kunitha and Dollu Kunitha, showcasing rhythmic drum performances.

• These dances often narrate mythological tales and celebrate local festivals.

• Main Theme: Indian Folk Dances

• India is home to a variety of folk dances, which are deeply rooted in cultural traditions and local customs.

• These dances are usually performed during festivals, social gatherings, or seasonal celebrations.

• Each region has its unique dance styles, often accompanied by traditional music and colorful costumes.

• Folk dances play a vital role in preserving India's heritage and fostering community spirit.

Q85. Answer: (b) Geo-stationary

The correct answer is Geo-stationary.

Key Points

• A geo-stationary orbit is a circular orbit located approximately 35,786 km (22,236 miles) above the equator.

• In this orbit, the satellite moves at the same rotational speed as Earth, making it appear stationary relative to an observer on Earth.

• This type of orbit is ideal for communication satellites, weather observation, and broadcasting purposes.

• Geo-stationary satellites have an inclination of 0 degrees, meaning they orbit in the Earth's equatorial plane.

• Examples of geo-stationary satellites include INSAT series satellites and weather monitoring systems like GOES.

Additional Information

• Polar Orbit:

• In a polar orbit, the satellite passes over the Earth's poles on each revolution.

• These orbits are typically used for Earth observation and remote sensing as they provide global coverage.

• Satellites in polar orbits have an inclination close to 90 degrees.

• An example of a polar orbit satellite is the NOAA series used for weather forecasting.

• Elliptical Orbit:

• Elliptical orbits are non-circular orbits where the satellite's distance from Earth varies throughout its revolution.

• These orbits are used for specific applications such as communication in high-latitude regions (e.g., Molniya orbits).

• The satellite spends more time near the apogee (farthest point from Earth), allowing extended coverage over a particular region.

• Sun-Synchronous Orbit:

• Sun-synchronous orbits are designed so that the satellite passes over the same part of the Earth at the same local solar time.

• This orbit ensures consistent lighting conditions, making it ideal for imaging and mapping purposes.

• These orbits are commonly used by Earth observation satellites like Landsat and Sentinel.

Q86. Answer: (b) Buoyancy

The correct answer is Buoyancy.

Key Points

• Buoyancy refers to the upward force exerted by a fluid on an object submerged in it. It is not a factor affecting the rate of evaporation since evaporation is a surface phenomenon and does not involve the displacement of fluids.

• Evaporation is primarily influenced by factors such as surface area, humidity, wind speed, and temperature, while buoyancy is associated with fluid mechanics and does not play a role in this process.

• In the context of evaporation, the movement or displacement of the liquid due to buoyancy is irrelevant as evaporation occurs at the liquid's surface.

• The rate of evaporation is determined by external environmental conditions, and buoyancy does not alter these factors.

Additional Information

• Surface Area:

• The rate of evaporation increases with an increase in the surface area. More molecules are exposed to the air, allowing a higher number of them to escape into the vapor phase.

• For example, water in a wide, shallow pan evaporates faster than in a narrow, deep container.

• Wind Speed:

• Higher wind speed increases evaporation by removing the saturated layer of air above the liquid's surface, making room for more molecules to escape.

• Wind acts as a dispersing agent, ensuring a lower concentration of water vapor near the surface of the liquid.

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• Humidity:

• Humidity refers to the amount of water vapor in the air. High humidity decreases the rate of evaporation as the air is already saturated with water vapor.

• Conversely, low humidity accelerates evaporation since the air can accommodate more vapor molecules.

• General Concept:

• Evaporation is the process by which molecules at the surface of a liquid gain enough energy to transition into the gaseous state.

• Factors such as temperature, surface area, wind speed, and humidity directly influence the rate of evaporation, while buoyancy is unrelated to this phenomenon.

Q87. Answer: (b) Energy stored in an object due to its position above the ground

The correct answer is Energy stored in an object due to its position above the ground.

Key Points

• Gravitational potential energy is the energy possessed by an object due to its position in a gravitational field.

• It depends on the height (h) of the object above the reference point, its mass (m), and the gravitational acceleration (g).

• The formula for gravitational potential energy is U = mgh, where:

• U = Gravitational potential energy,

• m = Mass of the object (in kilograms),

• g = Acceleration due to gravity (9.8 m/s² on Earth),

• h = Height of the object above the ground (in meters).

• Gravitational potential energy is a type of mechanical energy, specifically stored energy, which can be converted into kinetic energy when the object falls.

• This concept is crucial in understanding energy conservation in physics, as it explains how energy is stored and transferred in various systems.

Additional Information

• Option 1: Energy possessed by an object due to its motion

• This refers to kinetic energy, not gravitational potential energy.

• Kinetic energy is the energy an object possesses due to its velocity and is given by the formula K.E. = 0.5 × m × v², where v is the velocity of the object.

• Unlike potential energy, kinetic energy depends on motion rather than position.

• Option 3: Energy that is released during a chemical reaction

• This refers to chemical energy, not gravitational potential energy.

• Chemical energy is stored in the bonds of chemical compounds and is released during chemical reactions, such as combustion or photosynthesis.

• It plays a key role in processes like metabolism in living organisms and the operation of batteries.

• Option 4: Energy transferred through heat

• This describes thermal energy or heat energy, which is unrelated to gravitational potential energy.

• Thermal energy results from the movement of particles within a substance and is transferred through processes like conduction, convection, or radiation.

• It is a form of energy associated with temperature changes and not the position of an object in a gravitational field.

• Gravitational potential energy in context:

• It is a fundamental concept in physics and engineering, helping explain phenomena like free fall, energy conservation, and the functioning of systems like pendulums and roller coasters.

• Practical applications include hydroelectric power generation, where water stored at a height possesses gravitational potential energy that is converted into electricity as it falls.

Q88. Answer: (d) Thiruvananthapuram International Airport

The correct answer is Thiruvananthapuram International Airport.

Key Points

• India's first airport-based self-powered indoor air quality monitoring facility, named 'Pavana Chitra', was unveiled at Thiruvananthapuram International Airport in October 2024.

• The facility operates using renewable energy sources, reflecting the airport's commitment to environmental sustainability.

• 'Pavana Chitra' monitors indoor air quality parameters such as PM2.5, PM10, carbon dioxide, and other pollutants, ensuring a healthy environment for passengers and staff.

• This innovative project aligns with India's broader environmental goals and efforts to enhance passenger experience at airports.

• Thiruvananthapuram International Airport is among India's prominent airports, known for its advanced technology and eco-friendly initiatives.

Additional Information

• Chennai International Airport:

• Chennai International Airport is one of India's busiest airports, serving as a major hub for international and domestic flights.

• The airport has undertaken several modernization projects, including the installation of advanced baggage handling systems and terminal upgrades.

• It has implemented eco-friendly measures such as solar power usage, water recycling, and energy-efficient lighting systems.

• Bengaluru International Airport:

• Kempegowda International Airport in Bengaluru is India's first airport to use a 100% renewable energy source for its operations.

• The airport is known for its sustainability initiatives, such as rainwater harvesting and waste management systems.

• It has received accolades for its passenger-centric services and innovative technologies, including AI-driven baggage management.

• Jaipur International Airport:

• Jaipur International Airport is a key gateway to Rajasthan, offering connectivity to major cities in India and abroad.

• The airport has implemented energy-efficient lighting and solar power systems to reduce its carbon footprint.

• Although it has sustainable practices, it has not yet introduced indoor air quality monitoring facilities like 'Pavana Chitra.'

• Theme of the Question:

• The question emphasizes the importance of indoor air quality monitoring in public spaces, especially airports, to ensure passenger safety and comfort.

• Airports are increasingly adopting renewable energy-based systems and technologies to meet environmental standards and reduce operational costs.

• Such initiatives contribute to India's commitment to sustainability and reducing the impact of climate change.

Q89. Answer: (d) Northeast Frontier Railway

The correct answer is Northeast Frontier Railway.

Key Points

• Northeast Frontier Railway became India's first railway zone to switch to compostable bioplastic on trains in August 2025, setting an example in sustainable practices.

• The initiative aimed to reduce single-use plastic waste by introducing eco-friendly alternatives for packaging and disposable items used on trains.

• The bioplastics used are 100% compostable, ensuring they break down naturally and do not harm the environment.

• This move is aligned with the Indian government’s policy on plastic waste management and its push toward sustainable development goals.

• The Northeast Frontier Railway operates in environmentally sensitive areas, including the foothills of the Himalayas, making this initiative vital for regional ecological conservation.

Additional Information

• Northern Railway:

• Northern Railway is one of the largest zones in Indian Railways, headquartered in New Delhi.

• It is known for operating major train routes like Rajdhani Express and Shatabdi Express.

• It has been actively working on implementing green initiatives like solar energy integration at railway stations.

• Southern Railway:

• Southern Railway is headquartered in Chennai and covers Tamil Nadu, Kerala, and parts of Andhra Pradesh and Karnataka.

• This zone is recognized for pioneering efforts in electrification and sustainable energy practices.

• It has introduced innovative passenger amenities and environmental campaigns but has not yet switched to bioplastics on trains.

• Western Railway:

• Headquartered in Mumbai, Western Railway is known for operating suburban railways in Mumbai and long-distance trains across western India.

• It has implemented waste segregation and water conservation measures at stations and trains.

• Although active in green initiatives, it has not been the first to adopt compostable bioplastic technology.

• Main Theme:

• The adoption of compostable bioplastics is part of broader efforts by Indian Railways to reduce plastic waste and achieve sustainability.

• Bioplastics are derived from renewable resources like corn starch and are designed to decompose naturally, unlike traditional

plastics.

• This initiative aligns with India's commitment to the United Nations Sustainable Development Goals (SDGs), particularly SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action).

Q90. Answer: (c) Both I and II

The correct answer is Option 3 (Both I and II).

Key Points

• Farrukh Siyar: He was assassinated by the Sayyid Brothers (powerful Mughal nobles) in 1719 due to political conflicts and his inability to manage the empire effectively.

• Alamgir II: He was murdered in 1759 by his Vizier, Ghaziuddin Imad-ul-Mulk, who wanted to consolidate his own power in the Mughal court.

• Both Farrukh Siyar and Alamgir II were victims of assassination due to court intrigues and struggles for power among the nobles during the declining phase of the Mughal Empire.

• Such assassinations reflected the weakening central authority of the Mughal emperors and the rise of factionalism within the Mughal court.

• The murders were significant events marking the deterioration of the Mughal Empire and the increasing influence of regional leaders and nobles.

Additional Information

• Decline of Mughal Empire:

• The assassination of emperors like Farrukh Siyar and Alamgir II was a symptom of the broader decline of the Mughal Empire.

• The empire's decline was marked by weak leadership, court factionalism, and financial instability.

• The rise of regional powers like the Marathas, Sikhs, and the British further undermined the authority of the Mughal emperors.

• Farrukh Siyar:

• Reigned from 1713 to 1719.

• He was placed on the throne by the Sayyid Brothers, who later turned against him due to his attempts to curb their power.

• His assassination marked the beginning of the Sayyid Brothers' dominance in Mughal politics.

• Alamgir II:

• Reigned from 1754 to 1759.

• His reign was heavily influenced by Ghaziuddin Imad-ul-Mulk, who eventually orchestrated his murder.

• His assassination paved the way for further instability and the rise of the British East India Company's influence.

• Mughal Court Intrigues:

• During the later Mughal period, the court was plagued by constant intrigues among nobles and regional leaders.

• This period saw frequent assassinations, abdications, and puppet rulers controlled by powerful nobles.

• The weakening of imperial authority contributed to the fragmentation of the empire into smaller, semi-independent states.

Q91. Answer: (a) demand curve

The correct answer is demand curve.

Key Points

• The demand curve is a graphical representation of the relationship between the price of a good and the quantity of the good demanded by consumers.

• It is typically downward-sloping from left to right, which reflects the law of demand: as the price of a good decreases, the quantity demanded increases, and vice versa.

• The demand curve can shift due to factors such as changes in consumer income, tastes and preferences, prices of related goods, or population size.

• Each point on the demand curve represents a specific quantity demanded at a corresponding price.

• Demand curves are fundamental tools in microeconomics and are used to analyze consumer behavior and market equilibrium.

Additional Information

• Goods Curve:

• The term "goods curve" is not a standard concept in economics. It may be confused with the concept of indifference curves or production possibility curves.

• Indifference curves represent consumer preferences for two goods, showing combinations of goods that provide the same level of satisfaction.

• Production possibility curves represent the trade-off between the production of two different goods, given limited resources.

• Supply Curve:

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• The supply curve is a graphical representation of the relationship between the price of a good and the quantity of the good that producers are willing to supply.

• It typically slopes upward from left to right, reflecting the law of supply: as the price of a good increases, the quantity supplied also increases, and vice versa.

• The supply curve can shift due to factors such as changes in production costs, technology, or government policies.

• Seller Curve:

• "Seller curve" is not a standard term in economics and is not used in the context of microeconomic analysis.

• It might be interpreted as referring to the supply curve, which represents the willingness of sellers to provide goods at different price levels.

Q92. Answer: (d) 2020

The correct answer is 2020.

Key Points

• The National Infrastructure Pipeline (NIP) was launched in December 2019 and became operational in 2020.

• The initiative was unveiled by the Ministry of Finance to enhance infrastructure development and drive economic growth in India.

• NIP aims to invest Rs. 111 lakh crore in infrastructure projects by 2025, covering sectors like energy, roads, railways, irrigation, and digital infrastructure.

• It includes around 7,400 projects across the country that will be implemented over five years.

• The NIP serves as a critical component of India's efforts to achieve the $5 trillion economy goal by 2025.

• It ensures better project planning, financing, execution, and monitoring for sustainable infrastructure development.

Additional Information

• Option 1: 2003

• In 2003, India was focusing on liberalization and privatization under economic reforms initiated in the 1990s.

• While infrastructure development was emphasized, there was no specific initiative like the NIP launched during this year.

• Option 2: 2008

• 2008 was marked by the global financial crisis, which impacted infrastructure investments globally, including in India.

• India launched stimulus packages during this period to counter the economic slowdown, but the NIP was not introduced.

• Option 3: 2013

• In 2013, infrastructure projects gained attention under the Twelfth Five-Year Plan (2012-2017), focusing on energy, transportation, and urban development.

• However, the National Infrastructure Pipeline initiative was not launched during this year.

• National Infrastructure Pipeline (Main Theme)

• The NIP is a visionary project that consolidates infrastructure investments to boost economic efficiency and job creation.

• It focuses on public and private partnerships, enabling collaborative efforts to achieve large-scale development goals.

• This pipeline aligns with India's commitment to sustainable development and economic modernization.

Q93. Answer: (b) 2008

The correct answer is 2008.

Key Points

• Abhijit Sen was the chairman of the Committee on the Wholesale Price Index (WPI), which submitted its report in 2008.

• The Committee was constituted to review the existing structure of the WPI and suggest improvements to make it more representative and reflective of the economic realities of the country.

• This report formed the basis for revisions in the WPI series, ensuring its alignment with modern economic and industrial developments.

• The new WPI series that followed the recommendations of the report used the base year 2004-05, replacing the earlier base year of 1993-94, to reflect updated market realities.

• The revised WPI series included new items and removed obsolete ones to better represent the changing consumption and production patterns in the economy.

Additional Information

• 2004:

• This was the base year for the revised WPI series introduced after the Abhijit Sen Committee's recommendations.

• It is significant because it reflected updated economic patterns and served as a benchmark for subsequent WPI calculations.

• However, the committee itself did not submit its report in 2004 but later in 2008.

• 2006:

• In this year, preliminary discussions and reviews regarding the WPI structure were ongoing.
• However, the formal submission of the Abhijit Sen Committee report did not occur in 2006.
• 2010:
• In 2010, the government introduced a new WPI series with the base year 2004-05, which incorporated the recommendations of the Abhijit Sen Committee submitted earlier in 2008.
• However, the committee itself had completed and submitted its work two years prior, in 2008.
• Wholesale Price Index (WPI):
• The WPI is a measure of the changes in the prices of goods at the wholesale level, reflecting inflation trends in the economy.
• It is widely used by policymakers, economists, and businesses to monitor price stability and evaluate inflationary pressures.
• The WPI includes three main components: primary articles, fuel & power, and manufactured products.
• It plays a key role in decision-making related to monetary policy and economic planning.

Q94. Answer: (b) Criminal matters

The correct answer is Criminal matters.

Key Points

• The Concurrent List in the Indian Constitution consists of subjects where both the Centre and State governments can make laws.
• Criminal matters are explicitly listed under the Concurrent List in the Seventh Schedule of the Indian Constitution.
• Entry 1 of the Concurrent List specifically includes "Criminal law" except the procedure for criminal trials, which is covered under a separate entry.
• The inclusion of criminal matters in the Concurrent List allows both the Union and State governments to address issues related to criminal laws for maintaining law and order.
• In case of any conflict between Union and State laws on Concurrent List subjects, the Union law prevails, as per Article 254 of the Indian Constitution.

Additional Information

• Police (Option 1):
• The subject of "Police" is included under the State List in the Seventh Schedule of the Indian Constitution (Entry 2).
• States have exclusive legislative and administrative control over police forces within their jurisdiction.
• The maintenance of public order through policing is the responsibility of the respective state governments.
• Radio and television (Option 3):
• "Radio and television" fall under the Union List as part of Entry 31.
• The Union government has exclusive powers to legislate on matters related to broadcasting and communication technologies.
• The Prasar Bharati Act governs public broadcasting services like Doordarshan and All India Radio.
• Foreign affairs (Option 4):
• Foreign affairs are part of the Union List, specifically mentioned under Entry 10 and Entry 11.
• The Union government holds exclusive legislative and administrative powers over foreign relations, treaties, and agreements.
• This includes matters related to diplomatic missions and international organizations.
• Concurrent List Overview:
• The Concurrent List contains 52 subjects, including criminal law, marriage and divorce, bankruptcy, and education.
• Both the Union and State governments can legislate on these subjects, but Union laws take precedence in case of conflicts.
• This list is designed to allow cooperation and shared responsibility between the Centre and States.

Q95. Answer: (d) Barani

The correct answer is Barani.

Key Points

• Barani is not recognized as a cropping season in India. It refers to rain-fed agriculture practiced in certain regions, but it is not considered a formal cropping season like Kharif, Rabi, or Zaid.
• India has three major cropping seasons: Kharif, Rabi, and Zaid, each defined by the specific climatic conditions and crop cycles.
• The term "Barani" is commonly used in parts of Pakistan and India to describe agricultural practices dependent solely on rainfall, especially in areas lacking irrigation facilities.
• Cropping seasons are classified based on the timing of sowing and harvesting, and "Barani" does not fit into this formal classification system.
• Rain-fed or "Barani" agriculture is practiced in regions where irrigation is not available, but it is not considered a cropping season in agricultural systems.

Additional Information

• Kharif Cropping Season:
• Kharif crops are sown at the beginning of the monsoon season, typically in June or July.
• Common examples include rice, maize, cotton, jowar, bajra, and sugarcane.
• The harvesting period is during September and October.
• Kharif crops rely heavily on monsoon rains for growth.
• Rabi Cropping Season:
• Rabi crops are sown after the monsoon season ends, typically in October or November.
• Popular crops include wheat, barley, mustard, peas, and gram.
• Harvesting occurs during April and May.
• These crops are usually grown in irrigated areas and require less water compared to Kharif crops.
• Zaid Cropping Season:
• Zaid crops are grown between the Rabi and Kharif seasons, primarily during the summer months (March to June).
• Examples include watermelon, cucumber, muskmelon, and fodder crops.
• These crops are short-duration crops cultivated using irrigation.
• Zaid crops play a critical role in meeting the food needs during the transition between the main cropping seasons.
• Rain-fed Agriculture (Barani):
• Barani refers to agriculture that depends solely on rainfall without any irrigation.
• It is commonly practiced in regions with low to moderate rainfall, especially in arid and semi-arid areas.
• Barani farming involves cultivating crops like millet, sorghum, and pulses that are drought-resistant.
• While significant for local agricultural practices, it is not considered a formal cropping season in India.

Q96. Answer: (b) K.C. Pant

The correct answer is K.C. Pant.

Key Points

• K.C. Pant served as the Deputy Chairman of the Planning Commission of India during the Tenth Five Year Plan (2002-2007).
• He was a seasoned politician and a prominent member of the Indian National Congress, later joining the Bharatiya Janata Party.
• The Tenth Five Year Plan emphasized poverty reduction, employment generation, and improving human development indicators such as education and health.
• Under K.C. Pant's leadership, the Planning Commission worked towards achieving a targeted GDP growth rate of 8% during the plan period.
• He played a significant role in formulating policies related to economic reforms and development during his tenure at the Planning Commission.

Additional Information

• Shankarrao Chavan
• Shankarrao Chavan was a senior politician from the Indian National Congress who served as the Chief Minister of Maharashtra twice and held key Union Cabinet positions, including Home Minister and Finance Minister.
• He was not associated with the Planning Commission as Deputy Chairman during the Tenth Five Year Plan.
• Yashwant Sinha
• Yashwant Sinha is an Indian politician and former civil servant who served as the Finance Minister of India from 1990-1991 and 1998-2002.
• Although he played a critical role in economic reforms during his tenure, he was not associated with the Planning Commission as Deputy Chairman during the Tenth Five Year Plan.
• P. Shiv Shankar
• P. Shiv Shankar was a senior Congress leader and held various portfolios in the Union Cabinet, such as Law and Justice, External Affairs, and Human Resource Development.
• However, he was not associated with the Planning Commission during the Tenth Five Year Plan.
• Planning Commission and the Tenth Five Year Plan
• The Planning Commission was an institution in the Government of India that formulated India's Five Year Plans, among other functions, to promote a balanced and planned development of the economy.
• The Tenth Five Year Plan (2002–2007) focused on doubling per capita income in 10 years and achieving a poverty ratio reduction by 5 percentage points by 2007.
• The plan aimed at promoting inclusive growth, improving infrastructure, and fostering sustainable development.

Q97. Answer: (c) Both I and II

The correct answer is Option 3.

Key Points

• Non-tariff measures include restrictions and regulations other than tariffs that affect international trade. Examples include quotas, subsidies, and standards.

• Anti-dumping measures are non-tariff trade barriers imposed to protect domestic industries from unfair competition caused by imports sold below their normal value.

• Technical barriers to trade (TBT) refer to regulations, standards, and conformity assessment procedures imposed by countries that may restrict trade.

• Both anti-dumping and TBT measures are considered non-tariff measures, as they regulate trade without using direct tariffs.

• These measures aim to ensure fair trade practices, protect domestic industries, and maintain quality standards for goods traded internationally.

Additional Information

• Option 1: Only I

• Anti-dumping measures are specifically designed to counteract dumping, which occurs when foreign producers sell goods in the domestic market at prices lower than their production costs or market value.

• However, this option is incorrect because non-tariff measures also encompass technical barriers to trade (Option II).

• Option 2: Only II

• Technical barriers to trade include labeling requirements, health and safety standards, and environmental regulations that may indirectly limit trade.

• Although TBT measures are non-tariff measures, this option excludes anti-dumping measures, making it incorrect.

• Option 4: Neither I nor II

• This option is incorrect because both anti-dumping measures and technical barriers to trade are classified as non-tariff measures.

• Non-tariff measures are widely recognized in international trade policy frameworks, including those set by the World Trade Organization (WTO).

• Option 5: Unavailable

• Non-tariff measures, such as anti-dumping and TBT measures, are crucial tools for regulating and ensuring fair trade practices.

• These measures allow countries to safeguard their domestic industries and consumers while adhering to international trade agreements.

Q98. Answer: (b) Improved health and sanitation

The correct answer is Improved health and sanitation.

Key Points

• Between 1921 and 1951, India witnessed a significant decline in mortality rates primarily due to advancements in health and sanitation facilities.

• The introduction of modern medical practices, such as vaccinations and antibiotics, contributed to a reduction in deaths caused by infectious diseases like smallpox, cholera, and plague.

• Improvements in public health infrastructure, such as better drinking water supply, sewage systems, and cleanliness drives, played a pivotal role in controlling disease outbreaks.

• Public awareness campaigns focusing on hygiene and sanitation further improved living conditions, especially in urban areas.

• Government initiatives in the health sector during this period, such as the establishment of hospitals and training of medical personnel, laid the foundation for better healthcare access.

Additional Information

• Second World War

• The Second World War (1939–1945) had a devastating impact globally, leading to millions of deaths due to military conflict, famine, and diseases.

• In India, the war disrupted food supplies, leading to the Bengal Famine of 1943, which caused significant loss of life.

• While the war indirectly led to some technological advancements in medicine, it was not a direct factor in the decline of mortality rates in India during 1921-1951.

• Increase in birth rate

• An increase in the birth rate contributes to population growth but does not directly impact the mortality rate.

• During this period, India did experience population growth due to a decline in mortality rates; however, the birth rate itself was not a determining factor in reducing mortality.

• Artificial Intelligence

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• Artificial Intelligence (AI) did not exist or play any role in the period between 1921 and 1951.

• AI advancements are a modern development that began in the mid-20th century and became prominent in the 21st century.

Q99. Answer: (d) Pseudopodia

The correct answer is Pseudopodia.

Key Points

• Pseudopodia are temporary, finger-like projections of the cell membrane in amoeboid organisms like Amoeba.

• They play a crucial role in capturing food particles through a process called phagocytosis.

• Pseudopodia are formed by the cytoplasmic streaming mechanism, where the cytoplasm flows into the projections, causing the cell membrane to extend outward.

• Besides food intake, pseudopodia also help in locomotion, allowing the Amoeba to move by changing its shape and anchoring itself.

• These extensions are highly dynamic structures that continuously change their form to adapt to the environment and facilitate survival.

Additional Information

• Flagella:

• Flagella are whip-like structures used for locomotion in certain microorganisms such as bacteria and protozoa (e.g., Euglena).

• They are made of microtubules and powered by motor proteins that enable the organism to move in liquids.

• Unlike pseudopodia, flagella are permanent structures and are not involved in food intake.

• Cilia:

• Cilia are short, hair-like structures that cover the surface of certain cells (e.g., Paramecium).

• They beat rhythmically to enable movement and help in creating water currents for capturing food particles.

• Cilia are structurally similar to flagella but are smaller and more numerous.

• Vacuoles:

• Vacuoles are membrane-bound organelles found in cells, primarily used for storage and maintaining cellular homeostasis.

• In Amoeba, food vacuoles are formed after the pseudopodia engulf food particles, enclosing them for digestion.

• Unlike pseudopodia, vacuoles are not directly involved in the process of capturing food; they function after the food is ingested.

• Amoeba and its feeding mechanism:

• Amoeba is a unicellular organism that uses pseudopodia for both movement and feeding.

• The process of food intake begins with the formation of pseudopodia that surround and engulf the food particle, forming a food vacuole.

• Enzymes inside the vacuole digest the food, and the nutrients are absorbed into the cytoplasm.

• The versatility of pseudopodia is essential for Amoeba's survival, as it enables adaptation to diverse environments.

Q100. Answer: (c) Spiritual freedom

The correct answer is Spiritual freedom.

Key Points

• Moksha in Vedic philosophy stands for liberation or spiritual freedom from the cycle of birth and death (Samsara).

• It is considered the ultimate goal of human life and is one of the fourfold objectives (Purusharthas) of life in Indian philosophy, along with Dharma, Artha, and Kama.

• Moksha represents the attainment of eternal peace and self-realization by breaking free from material desires and attachments.

• The concept of Moksha emphasizes union with the ultimate reality or Brahman, transcending the physical and mental realm.

• Practices such as meditation, self-discipline, ethical living, and devotion are considered pathways to achieving Moksha.

Additional Information

• Pursuit of desires (Kama):

• Kama refers to the fulfillment of desires, including physical, emotional, and material pleasures.

• It is one of the Purusharthas and emphasizes enjoying life responsibly while adhering to Dharma (moral duties).

• Kama must be balanced and pursued without causing harm to oneself or others.

• Social status (Dharma):

• Dharma signifies moral duties, righteousness, and ethical living.

• It is the foundation for maintaining social order and harmony in life.

• Following one's Dharma ensures the well-being of both the individual and society.

• Wealth accumulation (Artha):

• Artha refers to the pursuit of wealth and prosperity to sustain oneself and contribute to societal welfare.
• It is important to earn wealth ethically and in alignment with Dharma.
• Artha supports the fulfillment of desires and enables the pursuit of higher spiritual goals like Moksha.
• Fourfold objective (Purusharthas):
• Vedic philosophy outlines the fourfold objectives of life: Dharma (ethical duty), Artha (wealth), Kama (desires), and Moksha (spiritual freedom).
• These objectives provide a holistic framework for leading a balanced and meaningful life.
• The ultimate aim is to achieve Moksha while fulfilling the other three objectives responsibly.

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