SSC CHSL 2025 Tier-1 (Held On: 14 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 train B. had left the station C. before we D. had arrived.

(a) The train
(b) had left the station
(c) before we
(d) had arrived.

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

After months of subtle manipulation, she finally showed her true colors and _____.

(a) played her cards right
(b) stabbed him in the back
(c) took the bull by the horns
(d) burned the midnight oil

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

(a) Easygoing
(b) Indulgent
(c) Meticulous
(d) Careless

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

The CEO resigned, citing personal reasons, but insiders knew it was just a _____.

(a) can of worms
(b) slip of the tongue
(c) red herring
(d) feather in the cap

Directions

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

Graphic design is a compelling and ubiquitous tool of visual communication that goes well beyond superficial aesthetics. Fundamentally, it is the art of communicating a particular message, concept, or emotion to an audience through visual means. A graphic designer's job is a strategic combination of problem-solving and creativity, where they carefully combine a mix of elements- type, color, images, and layout-to produce an engaging and lucid visual message. It's not about making something look pretty, but about making sure it says something and does something, someone through an interface. The work of the graphic designer is out there all around ther it's to convince a customer, to educate the public, or to navigate in our everyday lives. From symbols that characterize our beloved brands and the product packaging we use, to the design of the websites we visit and the posters that line our cities, graphic design influences how we understand the world we live in. It is a fundamental marketing, advertising, publishing, and digital media discipline, whereby it is utilized for creating brand identity, improving user experience, and rendering information more accessible and enjoyable. To succeed in this profession, a graphic designer must have a fine eye for detail, a good comprehension of design principles, and expertise in the industry-standard tools. But most importantly, she/he

is gifted with creativity and critical thinking in using visual communication to address actual issues. It is a job that exists where art and technology eet, an essential gateway between complicated concepts and people who must know.

Q5. What is the primary purpose of graphic design according to the text?

(a) To create aesthetically pleasing visuals
(b) To communicate a specific message or concept through visuals
(c) To make designs look modern
(d) To follow industry trends

Q6. Which of the following elements are combined by graphic designers to create visual messages?

(a) Typography, color, images, and layout
(b) Typography, music, videos, and text
(c) Color, design software, videos, and typography
(d) Photography, videos, music, and text

Q7. How is graphic design utilized in our everyday lives?

(a) To entertain audiences and promote entertainment services
(b) To create visual appeal without any specific function
(c) To influence understanding, marketing, and branding
(d) To only improve the aesthetic quality of spaces and products

Q8. What skills are essential for success in graphic design?

(a) Fine eye for detail, good design principles comprehension, expertise in design tools
(b) Ability to write compelling texts, manage teams, and learn new technologies
(c) Strong knowledge of web coding, photography, and motion graphics
(d) Expertise in advanced software coding and web development

Q9. What does the job of a graphic designer fundamentally involve?

(a) Combining creativity with visual communication to address real-world problems
(b) Creating new art for art's sake and pursuing personal expression
(c) Organizing visuals for simplicity and clarity in minimalistic designs
(d) Following a set of predefined design rules without deviation

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

"He gave her a single red rose on their anniversary"

(a) The water level rose quickly after the heavy rain.
(b) The smell of the freshly cut rose filled the room.
(c) Prices for gasoline rose sharply over the weekend.
(d) The sun rose just as we were finishing our hike.

Q11. Choose the correctly spelt word:

(a) Delusion
(b) Dilusion
(c) Delussion
(d) Delusian

Q12. Choose the correctly spelt word:

(a) Milenium
(b) Millennium
(c) Millenniam
(d) Millenium

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Q13. Choose the correct meaning of the idiom: Waxed and waned

(a) Increased and decreased
(b) Grown steadily
(c) Expanded and contracted rapidly
(d) Became fixed and stable

Q14. Choose the correct one-word substitute for:

The art of beautiful handwriting.

(a) Calligraphy
(b) Orthography
(c) Lexicography
(d) Etymology

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

(a) Corrupt
(b) Honest
(c) Ethical
(d) Noble

Q16. Choose the correct one-word substitute for:

A sudden and violent event causing great destruction

(a) Cataclysm
(b) Earthquake
(c) Tsunami
(d) Outbreak

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

(a) Sociable
(b) Solitary
(c) Friendly
(d) Outgoing

Q18. Change the following sentence into the Active form.

Why had the highly sensitive company report been rejected by the board of directors?

(a) Why had the board of directors rejected the highly sensitive company report?
(b) Why the board of directors had rejected the highly sensitive company report?
(c) The board of directors had rejected the highly sensitive company report, why?
(d) Why did the board of directors reject the highly sensitive company report?

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

The captain said, "We have been sailing in these choppy waters for two days, and we expect that the storm, which is now on the horizon, will hit us in a few hours."

(a) The captain said that they have been sailing in these choppy waters for two days, and they expect that the storm, which is now on the horizon, will hit them in a few hours.
(b) The captain said that they had been sailing in those choppy waters for two days, and they expected that the storm, which was then on the horizon, would hit them in a few hours.
(c) The captain said that they had been sailing in these choppy waters for two days, and they expected that the storm, which was then on the horizon, would hit them in a few hours.
(d) The captain said that they had been sailing in those choppy waters for two days, and they expected that the storm, which is now on the horizon, will hit them in a few hours.

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

The girl walked the dog, in a green dress.

(a) walk the dog, in a green dress
(b) walking the dog, in a green dress

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(c) in a green dress, walked the dog
(d) in a green dress, walking the dog

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

The next stage for the banking sector has been set up, with proposed relaxation of normal for foreign direct investment.

(a) To norms
(b) In normal
(c) Of norms
(d) By normal

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

The chef had prepared the special dish.

(a) The special dish was prepared by the chef.
(b) The special dish had been prepared by the chef.
(c) The special dish has been prepared by the chef.
(d) The special dish is being prepared by the chef.

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

The scientist announced that the new compound would react violently if it came into contact with water, and that they had been observing its properties for months.

(a) The scientist announced, "The new compound will react violently if it comes into contact with water, and we have been observing its properties for months."
(b) The scientist announced, "The new compound will react violently if it came into contact with water, and we have been observing its properties for months."
(c) The scientist announced, "The new compound would react violently if it came into contact with water, and we were observing its properties for months."
(d) The scientist announced, "The new compound will react violently if it comes into contact with water, and we had been observing its properties for months."

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

P. She selected the ideal candidate for each character by casting the actors.
Q. She helped them discover their voices and goals while guiding them through the rehearsal process.
R. She collaborated with the set and lighting designers to achieve the ideal ambience.
S. She witnessed her actors realise her vision in front of an audience on opening night.

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

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

P. It soon became a very important tool for long-distance information communication.
Q. The invention of the telegraph was one of the most remarkable technological advances of the 19th century.
R. In linking cities and even continents with its cable and signal networks, it transformed the rhythm of life.
S. This rate of communication had a revolutionary effect on the conduct of politics, business, and warfare.

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

GENERAL INTELLIGENCE

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Q26. If MEASURE is written as PHDVXUH, how is CULTURE coded?

(a) FXOWXUH
(b) FXOWUHU
(c) FXOWXHU
(d) FXOWVUH

Q27. In a certain code system, if REFRIGERATOR is coded as SFGSJHFSBUPS and MICROWAVE is coded as NJDSPXBWF, then what is the code for DISHWASHER?

(a) EJTIXBTIFS
(b) EJTTXBITFS
(c) EITIXBTIFS
(d) EJTJXBTIFS

Q28. In a particular code language, if ARCHITECTURE is coded as BSDIJUFDUVSF and ENGINEERING is coded as FOHJOFFSJOH, then what is the code for MATHEMATICS?

(a) NBUIFNBUJDT
(b) NBUJFNBUHDT
(c) NBUJFNBUJFT
(d) NBUJFMBJDT

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 air pollution has reached alarming levels in several metropolitan cities, prompting governments to implement stricter vehicle emission standards. While electric vehicle adoption is increasing gradually, many consumers still hesitate due to concerns about charging infrastructure and higher upfront costs. Industrial emissions also contribute significantly to air quality deterioration, requiring comprehensive policy reforms beyond just transportation sector changes.

Conclusions:

I. Vehicle emissions are the primary cause of urban air pollution.

II. Electric vehicle adoption faces practical barriers despite environmental benefits.

III. Solving air pollution requires multi-sectoral policy interventions.

Which conclusion necessarily follows?

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

A man finds a lost wallet in the park. It has cash and an ID card. What is the most ethical action?

(a) Take the money and leave the wallet
(b) Keep it in case no one claims it later
(c) Use the ID to contact the owner or report to authorities
(d) Ignore it and walk away

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 ' × ', then find the value of:

11 # 14 * 10 $ 9 = ?

(a) -27/10
(b) -3/5
(c) -13/5

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(d) -8/5

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 ' × ', '&' stands for ' ÷ ', then find the value of: 3 % 14 & 5 @ 12 = ?

(a) 49/5
(b) 56/5
(c) 61/5
(d) 66/5

Q33. A classmate is being excluded from group study due to a rumor. What is the socially responsible action?

(a) Ignore the situation entirely
(b) Join in excluding them to fit in
(c) Spread a counter-rumor
(d) Check with the classmate privately and include them while discouraging rumor spreading

Q34. 28 players stand in a line. Player X is 11th from the start and Player Y is 7th from the end. Find the number of players standing between X and Y.

(a) 9
(b) 10
(c) 11
(d) 12

Q35. Decorative bulbs are hung in a line. A red bulb is 5th from left, and a blue bulb is 8th from right. If there are 20 bulbs total, how many bulbs are between red and blue?

(a) 6
(b) 9
(c) 7
(d) 10

Q36. 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 plastic bottles be completely banned?

Argument I: Yes, they pollute the environment.

Argument II: No, people still need an affordable container option.

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

Q37. 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 social media platforms be strictly regulated to curb misinformation?

Argument I : Yes, misinformation spreads quickly and can cause harm to society.

Argument II : No, strict regulation may violate freedom of speech.

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

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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.

Find the next letter: A, E, J, P, ?

(a) W
(b) X
(c) Y
(d) Z

Q39. 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 in series: F, C, Z, W, ?

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

Q40. In this question some conditions or circumstances is provided to you, you have to make logical judgement according to mentioned circumstances and mark the correct judgement for question.

A local government is planning to develop a public park in a densely populated urban area. However, the land proposed is currently used by street vendors and hawkers for their livelihood. The administration must decide how to proceed with the development project.

(a) Cancel the park project entirely.
(b) Evict the vendors immediately and start construction.
(c) Relocate vendors to an alternative space and proceed with the park development.
(d) Build a wall around the area to separate the park from the vendors.

Q41. Four meaningful words are given in the options you have to check that which of the following words cannot be formed from the letters. 'PORTFOLIO'?

(a) FORT
(b) PORTICO
(c) RIFT
(d) ROOF

Q42. 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.

An NGO's volunteers have overlapping roles leading to confusion. What is the best fix?

(a) Define clear responsibilities with a simple matrix
(b) Replace volunteers continuously
(c) Let volunteers decide among themselves
(d) Do nothing and accept inefficiency

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.

AZ : CX :: BY : ?

(a) CV
(b) DX
(c) CW
(d) DW

Q44. 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.

DE : CE :: FG : ?

(a) EG

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(b) FG
(c) DF
(d) EH

Q45. Find the next element that replace the ? Logically

6, 25, 62, 123, ?

(a) 214
(b) 224
(c) 211
(d) 228

Q46. Find the next element that replace the ? Logically

1, 10, 28, 64, ?

(a) 140
(b) 129
(c) 136
(d) 148

Q47. Find the next element that replace the ? Logically

6, 33, 141, 573, ?

(a) 2297
(b) 2319
(c) 2301
(d) 2308

Q48. In three of the following pairs are same by same pattern except one pair. Which pair does not follow this pattern?

(a) 8 : 27
(b) 1 : 8
(c) 8 : 26
(d) 27 : 64

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

1. Entertainment
2. Enterprise
3. Entitlement
4. Entrepreneurial
5. Environment

(a) 1, 2, 3, 4, 5
(b) 2, 1, 3, 4, 5
(c) 1, 2, 4, 3, 5
(d) 2, 1, 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. Lawyer
2. Language
3. Leather
4. Liberty
5. Listen
6. Little

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

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QUANTITATIVE APTITUDE

Q51. P, Q, and R started a business. P is the working partner and receives a monthly salary of $2,000 from the total profit. The remaining profit is distributed among all three in the ratio of their investments. P, Q, and R invested $50,000, $60,000, and $70,000 respectively. If at the end of the year, P's total earning was 40,000, what was the total profit?

(a) $ 84000
(b) $ 96000
(c) $ 81600
(d) $ 72000

Q52. If cosA = 5/13 and sinB = 12/13 find sinA cosB + cosA sinB:

(a) 120/169
(b) 13/169
(c) 12/169
(d) 7/13

Q53. If equal quantities of two types of sugar are mixed, where the first is sold for 40 Rs/kg at a 25% profit, and the second is sold for 30 Rs/kg at a 25% loss. If the mixture is sold at 36 Rs/kg, what is the loss or gain percentage?

(a) 5% gain
(b) 10% gain
(c) 0% gain/loss
(d) 10% loss

Q54. The amount at the end of the 2nd and 3rd years on a certain principal at CI Rs. 4232 is and Rs. 4655.20 respectively. Find the rate of interest per annum.

(a) 12%
(b) 15%
(c) 8%
(d) 10%

Q55. The sum of three numbers is 180. If the ratio of the first to second is 3 : 5, and the ratio of the second to third is 4 : 7, then the second number is:

(a) 40.8
(b) 53.73
(c) 63.12
(d) 72.05

Q56. In a group of 7 students, 4 boys and 3 girls spent an average of Rs. 120 each. If the average spending of the boys was Rs. 150, what was the average spending of the girls?

(a) Rs. 70
(b) Rs. 90
(c) Rs. 80
(d) Rs. 100

Q57. A rectangular courtyard of 3. 78 meters by 5. 25 meters is to be paved with square tiles, all of the same size. What is the largest size of the tile which could be used for this purpose?

(a) 14 cm
(b) 21 cm
(c) 42 cm
(d) 56 cm

Q58. A machine is purchased for Rs. 80,000. Its value depreciates at the rate of 10% per year. What will be its value after 3 years?

(a) Rs. 57,600
(b) Rs. 58,320

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(c) Rs. 59,000
(d) Rs. 59,200

Q59. A alone can do a job in 12 days, B alone in 24 days. They work together for 4 days, then A leaves. In how many more days will B finish the job?
(a) 12 days
(b) 7 days
(c) 8 days
(d) 9 days

Q60. A retailer marks his goods at 40% above the cost price and allows a 15% discount. What is his profit percentage?
(a) 20%
(b) 19%
(c) 25%
(d) 22%

Q61. An investor divides a total of (25,000) into two different accounts. Account A earns simple interest at a rate of (4%) per year, and Account B earns simple interest at a rate of (6.5%) per year. After three years, the total interest earned from both accounts is 3,975. What is the amount of money invested in Account A?
(a) $ 13,000
(b) $ 10,000
(c) $ 15,000
(d) $ 12,000

Q62. If $x + y + z = 16$ and $xy + yz + zx = 75$, what is the value of $x^2 + y^2 + z^2$?
(a) 106
(b) 121
(c) 156
(d) 108

Q63. Find the smallest perfect square that is divisible by both 16 and 36.
(a) 144
(b) 576
(c) 900
(d) 1024

Q64. A container holds 80 liters of a mixture of acid and water in the ratio 7:9. If 8 liters of acid is added to the container, what will be the new ratio of acid to water?
(a) 8 : 9
(b) 43 : 45
(c) 7 : 10
(d) 43 : 53

Q65. A circle is inscribed in a square. The side of the square is 14 cm. What is the area of the circle?
(a) 563. 84 cm^2
(b) 253. 56 cm^2
(c) 897. 54 cm^2
(d) 153. 94 cm^2

Q66. A solid metal sphere is melted and recast into a cylinder, where the radius of the cylinder is twice that of the sphere. If the height of the cylinder is h and the radius of the sphere is r, what is the ratio of h to r ?
(a) 2:3
(b) 1:3
(c) 3:2
(d) 3:1

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Q67. The total surface area of a solid hemisphere is numerically equal to the volume of a sphere with the same radius. What is the radius?

(a) 2.25 units
(b) 4 units
(c) 5 units
(d) 3 units

Q68. A certain fraction has a denominator that is 5 more than its numerator. If 3 is added to both the numerator and the denominator, the new fraction is equivalent to 2/3. What was the original fraction?

(a) 8/13
(b) 6/11
(c) 7/12
(d) 1/10

Q69. If b - 1/b = 3 then calculate the value of b^6 + 1/(b^6) ?

(a) 1298
(b) 1345
(c) 1987
(d) 1678

Q70. Simplify: (√45 + √20)/√5

(a) 1
(b) 0
(c) 5
(d) 12

Q71. Simplify the expression: $(\cos^2(x) - \sin^2(x))/(1 - \sin^2(x))$.

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

Q72. If sin2A= 3/5, what is cos2A?

(a) 4/5
(b) 5/6
(c) 6/7
(d) 7/8

Q73. If $\sin^2A+\cos^2A=1$ and tanA=2, find sinA and cosA.

(a) sinA= 2/√5, cosA= 1/√5
(b) sinA= 1/√5, cosA= 2/√5
(c) sinA= 2/5, cosA= 3/5
(d) sinA= 5/6, cosA= 6/7

Q74. A line passes through the points (x,2) and (3,-4) and has a slope of 2. What is the value of x ?

(a) 2
(b) 8
(c) 6
(d) 4

Q75. A man can walk up a moving-up escalator in 30 seconds. The same man can walk down the same moving-up escalator in 90 seconds. How long would it take him to walk up the escalator when it is not moving?

(a) 45 seconds
(b) 75 seconds
(c) 60 seconds

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(d) 40 seconds

GENERAL AWARENESS

Q76. Who among the following is the first female auto-rickshaw driver in India?

(a) Radhika Menon
(b) Shila Dawre
(c) Parul Parmar
(d) Debala Mitra

Q77. As of 31st July 2025, who is the current Chief Justice of the Jammu & Kashmir and Ladakh High Court?

(a) Justice Arun Palli
(b) Justice Bhushan Ramkrishna Gavai
(c) Justice Dinesh Maheshwari
(d) Judge Kaveri Baweja

Q78. Youth Spiritual Summit held in July 2025 was organized by which of the following?

(a) Ministry of Youth Affairs and Sports
(b) NITI Aayog
(c) TATA Trusts
(d) Ministry of Education

Q79. The Pradhan Mantri Janjatiya Unnat Gram Abhiyan, launched in 2024 is specifically targeted at _____.

(a) Urban poor women
(b) Tribal communities in aspirational areas
(c) Micro-entrepreneurs in rural India
(d) Senior citizens in tribal regions

Q80. In India, Financial Inclusion Index has ____ sub-indices.

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

Q81. Which state became the first to link forest ecosystem with green GDP?

(a) Bihar
(b) Chhattisgarh
(c) Kerala
(d) Karnataka

Q82. Which pipe instrument is traditionally linked with the songs and dances of the Dimasa tribe in Assam?

(a) Muri
(b) Harp
(c) Cymbal
(d) Santoor

Q83. Who is the author of the book 'The Householder'?

(a) Ruskin Bond
(b) Satyajit Ray
(c) Arun Joshi
(d) Amitabha Bagchi

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Q84. Which folk dance of Lakshadweep is also known as the 'Shield Dance'?

(a) Ghumura
(b) Gambhira
(c) Parichakali
(d) Yak Chaam

Q85. Which of the following statement is correct regarding Star?

I. It is made up of gases.
II. They do not have their own heat and light.

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

Q86. Which of the following statement is an example of contact force?

I. Electrostatic force
II. Friction

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

Q87. What is the formula for calculating the momentum of an object? (p = momentum, m = mass, a = acceleration, v = velocity)

(a) p = m/a
(b) p = ma
(c) p = mv
(d) p = m/v

Q88. What is the name of India's first Ayurvedic diagnostic device developed in January 2025?

(a) AyurScan
(b) PulsePro
(c) Nadi Tarangini
(d) Veda Diag

Q89. In August 2025, which medical college in India has launched the country's first Department of Artificial Intelligence in Healthcare?

(a) CMC, Vellore
(b) KMC, Manipal
(c) JIPMER, Puducherry
(d) BITS, Pilani

Q90. There is a constitutional requirement in India to present the annual financial statement before the _____ every year.

(a) Parliament
(b) President
(c) Vice-President
(d) Prime Minister

Q91. Which of the following is NOT the primary goal of Production Linked Incentive (PLI) scheme?

(a) To attract substantial investments.
(b) To incorporate advanced technology.
(c) To ensure operational efficiency.
(d) To increase the government regulation in the private operation significantly.

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Q92. Which group provided the backbone of the Maratha army?

(a) Ur
(b) Zamindars
(c) Kunbis
(d) Mansabdar

Q93. Service Export from India Scheme was launched in which of the following years?

(a) 2015
(b) 2017
(c) 2011
(d) 2008

Q94. Which article of the Indian Constitution deals with sessions of Parliament?

(a) Article 74
(b) Article 85
(c) Article 93
(d) Article 100

Q95. Which of the following statement is INCORRECT regarding Deendayal Port?

(a) It is also known as Kandla port.
(b) It is regarded as a Major port.
(c) It is in eastern part of India.
(d) It is specially designed to receive large quantities of Petroleum products.

Q96. After which of the following five year plan in India, the emphasis on the public sector has become less pronounced?

(a) First
(b) Third
(c) Fifth
(d) Ninth

Q97. Who among the following was the chairman of Planning Commission under the tenth five year plan?

(a) Atal Bihari Vajpayee
(b) I. K. Gujral
(c) H. D. Deve Gowda
(d) P. V. Narasimha Rao

Q98. National Population Policy 2000 aim to stabilize India's population growth by _____.

(a) 2045
(b) 2050
(c) 2055
(d) 2060

Q99. Why do arteries have thick, elastic walls in human body?

(a) To accommodate high blood pressure
(b) To prevent blood clotting
(c) To facilitate nutrient exchange
(d) To store oxygen

Q100. Kanishka convened the Fourth Buddhist Council at which of the following place?

(a) Vaishali
(b) Ujjain
(c) Gwalior
(d) Kundalavana

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ANSWER KEY

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

SOLUTIONS

Q1. Answer: (d) had arrived.

The correct answer is 'had arrived'.

Key Points

• The sentence uses two actions in the past:

• The train leaving the station happened first.

• Our arrival happened later.

• The action that happened first should be in past perfect tense ("had left"), while the later action should be in simple past tense.

• Therefore, "had arrived" is incorrect and should be replaced with "arrived".

• Hence, the grammatical error is in Part D.

Therefore, the correct answer is Option 4.

Correct Sentence: "The train had left the station before we arrived."

Additional Information

• Past perfect tense is used for the action completed earlier in the past.

• Simple past tense is generally used for the later past action.

• Example: "She had eaten before I arrived."

Q2. Answer: (b) stabbed him in the back

The solution is in Hindi. Read it online.

Q3. Answer: (c) Meticulous

The solution is in Hindi. Read it online.

Q4. Answer: (c) red herring

The solution is in Hindi. Read it online.

Q5. Answer: (b) To communicate a specific message or concept through visuals

The correct answer is Option 2: To communicate a specific message or concept through visuals

Key Points

• The primary purpose of graphic design is to communicate a specific message or concept through visuals, making it a powerful tool for effective communication.

• While aesthetics are important, the focus of graphic design lies in delivering the intended message clearly and effectively.

• Design choices such as color, typography, and layout are made to support the message or idea being conveyed.

• Thus, the main goal of graphic design is not just to make designs look modern or follow trends, but to ensure that the message is communicated in a visually engaging and impactful way.

Therefore, the correct answer is Option 2.

Correct Explanation: Graphic design is a discipline that blends creativity and purpose. The design elements are intentionally

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chosen to communicate specific ideas, messages, or emotions to the target audience, ensuring clarity and engagement.

Additional Information

• Option 1: Creating aesthetically pleasing visuals is a part of graphic design, but it is secondary to the primary purpose of communication.

• Option 3: Making designs look modern is not the primary goal of graphic design; it is merely a style choice.

• Option 4: Following industry trends can enhance a design's relevance but is not the main objective of graphic design.

Q6. Answer: (a) Typography, color, images, and layout

The correct answer is Option 1: Typography, color, images, and layout.

Key Points

• Graphic designers combine various elements to create visually appealing and effective messages.

• These elements include typography, color, images, and layout, which are essential for designing visual communication.

• Typography involves the style and arrangement of text to make it readable and visually engaging.

• Color is used to evoke emotions, create emphasis, and establish a visual hierarchy.

• Images, including illustrations and photography, add visual interest and convey meaning.

• The layout organizes these elements cohesively to guide the viewer's attention and ensure clarity.

Therefore, the correct answer is Option 1.

Correct Explanation: Graphic designers use typography, color, images, and layout to effectively communicate ideas and messages visually.

Additional Information

• Option 2: While videos, music, and text are used in multimedia design, they are not the primary elements of graphic design.

• Option 3: Design software is a tool for creating designs, but it is not an element of graphic design itself.

• Option 4: Photography, videos, and music are relevant to multimedia but do not encompass all essential elements of graphic design.

Q7. Answer: (c) To influence understanding, marketing, and branding

The correct answer is Option 3: To influence understanding, marketing, and branding.

Key Points

• Graphic design is a powerful tool used to influence understanding, marketing, and branding in everyday life.

• It helps in creating visually compelling messages that convey ideas and information effectively.

• Through logos, advertisements, product packaging, and digital content, graphic design plays a vital role in shaping consumer perceptions and behaviors.

• It connects businesses with their audiences by building a strong and recognizable brand identity.

Therefore, the correct answer is Option 3.

Correct Explanation: Graphic design is not just about aesthetics; it involves strategic visual communication to achieve specific goals such as marketing, branding, and influencing understanding.

Additional Information

• Option 1: While graphic design is used to entertain audiences and promote entertainment services, this is only one of its many applications.

• Option 2: Creating visual appeal without any specific function is not the primary purpose of graphic design. It is inherently functional and goal-oriented.

• Option 4: Improving aesthetic quality is a part of graphic design, but its scope extends far beyond just aesthetics.

Q8. Answer: (a) Fine eye for detail, good design principles comprehension, expertise in design tools

The correct answer is Option 1: Fine eye for detail, good design principles comprehension, expertise in design tools.

Key Points

• A fine eye for detail is essential in graphic design to ensure precision and accuracy in designs.

• Good comprehension of design principles, such as balance, contrast, alignment, and hierarchy, is critical for creating visually appealing work.

• Expertise in design tools like Adobe Photoshop, Illustrator, and InDesign is necessary for executing creative ideas effectively.

• These skills are foundational for success in graphic design, making Option 1 the correct choice.

Therefore, the correct answer is Option 1.

Correct Explanation: Option 1 highlights the fundamental skills required for a successful graphic design career, focusing on attention to detail, design principles, and tool expertise.

Additional Information

• Option 2: While managing teams and writing compelling texts are valuable skills, they are not core to graphic design.

• Option 3: Knowledge of web coding, photography, and motion graphics is useful for specialized roles but not essential for all graphic designers.

• Option 4: Advanced software coding and web development fall outside the primary scope of graphic design.

Q9. Answer: (a) Combining creativity with visual communication to address real-world problems

The correct answer is Option 1: Combining creativity with visual communication to address real-world problems.

Key Points

• The job of a graphic designer fundamentally involves combining creativity with visual communication to address real-world problems.

• This means using design principles, tools, and skills to create visuals that effectively communicate ideas and solve specific challenges.

• Option 2 (Creating new art for art's sake) is incorrect because graphic design is purpose-driven and not solely about personal expression.

• Option 3 (Organizing visuals for minimalistic designs) is a subset of graphic design but does not encompass its broader scope.

• Option 4 (Following predefined rules) is incorrect because graphic design often requires flexibility and innovation.

Therefore, the correct answer is Option 1.

Correct Explanation: Graphic design is a discipline that blends creativity with strategic visual communication to solve problems and convey messages effectively across various mediums.

Additional Information

• Creativity: Graphic designers use their creative abilities to craft visually appealing and effective designs.

• Purpose-driven: Unlike art for personal expression, graphic design focuses on addressing specific communication goals and problems.

• Tools and Skills: Designers use software like Adobe Photoshop, Illustrator, and Figma to create their work.

• Flexibility: While design principles exist, graphic designers often need to adapt and innovate based on project requirements.

Q10. Answer: (b) The smell of the freshly cut rose filled the room.

The solution is in Hindi. Read it online.

Q11. Answer: (a) Delusion

The solution is in Hindi. Read it online.

Q12. Answer: (b) Millennium

The correct answer is option 2.

Key Points

The misspelled words are:

• Milenium instead of Millennium

• Millenniam instead of Millennium

• Millenium instead of Millennium

The correct spelling is 'Millennium'.

• Millennium is a noun that means 'a period of a thousand years'.

• For Example -

• The year 2000 marked the beginning of a new millennium.

Therefore, the correct answer is option 2: Millennium.

Additional Information

Key Spelling Tip:

• The word 'Millennium' is derived from the Latin word 'mille', meaning 'thousand', and 'annus', meaning 'year'.

• It has two 'l's and two 'n's, which are often misspelled.

Q13. Answer: (a) Increased and decreased

The solution is in Hindi. Read it online.

Q14. Answer: (a) Calligraphy

The solution is in Hindi. Read it online.

Q15. Answer: (a) Corrupt

The solution is in Hindi. Read it online.

Q16. Answer: (a) Cataclysm

The solution is in Hindi. Read it online.

Q17. Answer: (b) Solitary

The solution is in Hindi. Read it online.

Q18. Answer: (a) Why had the board of directors rejected the highly sensitive company report?

The correct answer is Option 1.

Key Points

• Passive voice structure: The object of the active voice sentence becomes the subject of the passive voice sentence.

• Active voice structure: The subject of the sentence performs the action on the object.

• In the given passive sentence: "Why had the highly sensitive company report been rejected by the board of directors?"

• To convert this into active voice, the subject "the board of directors" must perform the action "rejected" on the object "the highly sensitive company report."

• The correct active voice sentence is: "Why had the board of directors rejected the highly sensitive company report?"

Therefore, the correct answer is Option 1.

Correct Sentence: "Why had the board of directors rejected the highly sensitive company report?"

Additional Information

• Option 2: "Why the board of directors had rejected the highly sensitive company report?" – Incorrect word order.

• Option 3: "The board of directors had rejected the highly sensitive company report, why?" – Incorrect structure and punctuation.

• Option 4: "Why did the board of directors reject the highly sensitive company report?" – Incorrect tense (simple past instead of past perfect).

Q19. Answer: (b) The captain said that they had been sailing in those choppy waters for two days, and they expected that the...

The correct answer is Option 2.

Key Points

• Indirect Speech: The captain said that they had been sailing in those choppy waters for two days, and they expected that the storm, which was then on the horizon, would hit them in a few hours.

• Key Conversions:

• Pronoun Changes:

• "We" becomes "they" to match the third person in reported speech.

• "these" becomes "those" to reflect the change in perspective.

• Tense Changes:

• Present perfect "have been sailing" changes to past perfect "had been sailing" in reported speech.

• Present simple "expect" changes to past simple "expected."

• Future "will hit" changes to conditional "would hit" in reported speech.

• Present "is now" changes to past "was then" to reflect the past timeline.

• Reporting Verb:

• The reporting verb "said" is used to introduce the indirect speech without altering the tone.

• Punctuation and Format:

• Quotation marks are removed in indirect speech.

• The sentence structure is adjusted for grammatical correctness in reported speech.

Therefore, the correct answer is Option 2.

Correct Sentence: The captain said that they had been sailing in those choppy waters for two days, and they expected that the storm, which was then on the horizon, would hit them in a few hours.

Additional Information

• Option 1: The captain said that they have been sailing in these choppy waters for two days, and they expect that the storm, which is now on the horizon, will hit them in a few hours.

• Incorrect tense usage: "have been sailing" should change to "had been sailing," and "expect" should change to "expected."

• Words "these" and "is now" are not adjusted to "those" and "was then."

• Option 3: The captain said that they had been sailing in these choppy waters for two days, and they expected that the storm,

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which was then on the horizon, would hit them in a few hours.

• Incorrect usage of "these" instead of "those" for reported speech.

• Option 4: The captain said that they had been sailing in those choppy waters for two days, and they expected that the storm, which is now on the horizon, will hit them in a few hours.

• Incorrect tense usage: "is now" should change to "was then," and "will hit" should change to "would hit."

Q20. Answer: (c) in a green dress, walked the dog

The correct answer is 'in a green dress, walked the dog'.

Key Points

• The placement of the phrase "in a green dress" is crucial for the correct sentence structure and clarity.

• Option 3: "in a green dress, walked the dog" correctly places the modifying phrase "in a green dress" near the subject "The girl," ensuring the sentence is unambiguous.

• Options 1, 2, and 4 are incorrect as they either imply the dog is wearing the dress or create an awkward sentence structure.

Therefore, the correct answer is Option 3.

Complete Sentence: "The girl, in a green dress, walked the dog."

Additional Information

• Option 1: "walk the dog, in a green dress" is incorrect as it suggests the dog is wearing the dress.

• Option 2: "walking the dog, in a green dress" is incorrect as it changes the tense and meaning of the sentence.

• Option 4: "in a green dress, walking the dog" is incorrect as it creates an incomplete and unclear sentence structure.

Q21. Answer: (c) Of norms

The correct answer is 'Of norms'.

Key Points

• The phrase "of norms" is the most appropriate replacement for "normal" in the sentence, as it accurately conveys the intended meaning of the relaxation being applied to the rules or regulations in question.

• Option 1 ("To norms") is incorrect because "to" does not fit the context of the sentence.

• Option 2 ("In normal") is incorrect because "normal" is not the correct word to describe the context of rules or regulations.

• Option 4 ("By normal") is incorrect as it does not convey the intended meaning of relaxation in rules.

Therefore, the correct answer is Option 3.

Complete Sentence: "The next stage for the banking sector has been set up, with proposed relaxation of norms for foreign direct investment."

Additional Information

• Option 1: "To norms" is incorrect as "to" does not suit the context of the sentence.

• Option 2: "In normal" is incorrect because "normal" cannot replace "norms" in this context.

• Option 4: "By normal" is incorrect as it misrepresents the intended meaning of the relaxation in question.

Q22. Answer: (b) The special dish had been prepared by the chef.

The correct answer is Option 2.

Key Points

• Passive voice structure: The object of the active voice sentence becomes the subject of the passive voice sentence.

• In the active voice, the sentence is: "The chef had prepared the special dish."

• To convert to passive voice: Place the object "the special dish" at the beginning.

• Change the active verb form "had prepared" to "had been prepared" (past perfect passive).

• Add the preposition "by" followed by the original subject "the chef."

Therefore, the correct answer is Option 2.

Correct Sentence: "The special dish had been prepared by the chef."

Additional Information

• Option 1: "The special dish was prepared by the chef." – Incorrect tense (past simple passive).

• Option 3: "The special dish has been prepared by the chef." – Incorrect tense (present perfect passive).

• Option 4: "The special dish is being prepared by the chef." – Incorrect tense (present continuous passive).

Q23. Answer: (a) The scientist announced, "The new compound will react violently if it comes into contact with water, and we...

The correct answer is Option 1.

Key Points

• Indirect Speech: The scientist announced that the new compound would react violently if it came into contact with water, and that they had been observing its properties for months.

• Key Conversions:

• "The new compound would react violently" becomes "The new compound will react violently"

• The modal verb "would" is converted to "will" to reflect direct speech.

• The tense is changed to match the direct speech.

• "if it came into contact" becomes "if it comes into contact"

• The verb "came" is converted to "comes" to align with the direct speech present tense.

• "they had been observing" becomes "we have been observing"

• The pronoun "they" is changed to "we" to reflect the first person in direct speech.

• The past perfect continuous "had been observing" is converted to present perfect continuous "have been observing" in direct speech.

• Punctuation and Format:

• Direct speech is enclosed in quotation marks.

• Starts with a capital letter "The" and ends with a period ".".

• Reporting clause precedes the quoted speech, followed by a comma.

Therefore, the correct answer is Option 1.

Correct Sentence: "The scientist announced, ‘The new compound will react violently if it comes into contact with water, and we have been observing its properties for months.’"

Additional Information

• Option 2: "The scientist announced, 'The new compound will react violently if it came into contact with water, and we have been observing its properties for months.'"

• The clause "if it came into contact" is incorrect as it uses the past tense instead of the present tense in direct speech.

• Option 3: "The scientist announced, 'The new compound would react violently if it came into contact with water, and we were observing its properties for months.'"

• The modal verb "would" and the tense "we were observing" are incorrect as they do not match the direct speech format.

• Option 4: "The scientist announced, 'The new compound will react violently if it comes into contact with water, and we had been observing its properties for months.'"

• The tense "we had been observing" is incorrect as it does not match the present perfect continuous tense in direct speech.

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

The correct answer is Option 3.

Key Points

• The paragraph describes the step-by-step approach a director takes to bring a play to life.

• Sentence P is the first sentence as it introduces the initial step of casting the actors for the play:

• "She selected the ideal candidate for each character by casting the actors."

• Sentence Q follows as it elaborates on how the director helps the actors during the rehearsal process:

• "She helped them discover their voices and goals while guiding them through the rehearsal process."

• Sentence R is the third sentence because it explains how the director collaborates with set and lighting designers to create the desired atmosphere:

• "She collaborated with the set and lighting designers to achieve the ideal ambience."

• Sentence S is the final sentence as it concludes the paragraph by describing the culmination of the director's efforts on opening night:

• "She witnessed her actors realise her vision in front of an audience on opening night."

• The correct sequence is P, Q, R, S.

Coherent paragraph after rearrangement:

"She selected the ideal candidate for each character by casting the actors. She helped them discover their voices and goals while guiding them through the rehearsal process. She collaborated with the set and lighting designers to achieve the ideal ambience. She witnessed her actors realise her vision in front of an audience on opening night."

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

The correct answer is Option 1.

Key Points

• The paragraph begins with Sentence Q as it introduces the invention of the telegraph and its significance in history.
• Sentence Q is the first sentence because it sets the context for the importance of the telegraph:
• "The invention of the telegraph was one of the most remarkable technological advances of the 19th century."
• Sentence P follows as it explains how the telegraph became important for long-distance communication:
• "It soon became a very important tool for long-distance information communication."
• Sentence R comes next because it describes how the telegraph connected cities and continents, influencing daily life:
• "In linking cities and even continents with its cable and signal networks, it transformed the rhythm of life."
• Sentence S concludes by elaborating on how the telegraph revolutionized politics, business, and warfare:
• "This rate of communication had a revolutionary effect on the conduct of politics, business, and warfare."
• The correct sequence is Q, P, R, S.

Coherent paragraph after rearrangement:

"The invention of the telegraph was one of the most remarkable technological advances of the 19th century. It soon became a very important tool for long-distance information communication. In linking cities and even continents with its cable and signal networks, it transformed the rhythm of life. This rate of communication had a revolutionary effect on the conduct of politics, business, and warfare."

Q26. Answer: (a) FXOWXUH

The logic followed here is that each letter in the word is shifted forward by 3 positions (+3) in the alphabetical series.

For MEASURE : PHDVXUH

Similarly, applying the same logic to CULTURE:

The resulting code is FXOWXUH.

Hence, the correct answer is "Option 1".

Q27. Answer: (a) EJTIXBTIFS

Given:

The logic followed here is:

For REFRIGERATOR : SFGSJHFSBUPS

For MICROWAVE : NJDSPXBWF

Similarly, for DISHWASHER:

The resulting code is EJTIXBTIFS.

Hence, the correct answer is "Option 1".

Q28. Answer: (a) NBUIFNBUJDT

The logic followed here is:

Given word: MATHEMATICS

Code pattern: Each letter is shifted +1 in the alphabet (A → B, B → C, …).

Option 1) NBUIFNBUJDT

→ M→N, A→B, T→U, H→I, E→F, M→N, A→B, T→U, I→J, C→D, S→T → Matches the pattern → Correct

Option 2) NBUJFNBUHDT

→ Last few letters do not match the +1 shift → Incorrect

Option 3) NBUJFNBUJFT

→ Last letters incorrect (S→T, not F) → Incorrect

Option 4) NBUJFMBJDT

→ Middle letters do not match the pattern → Incorrect

Hence, the correct answer is "Option 1".

Q29. Answer: (c) Both II and III follow

Given Statement:

Urban air pollution has reached alarming levels in several metropolitan cities, prompting governments to implement stricter vehicle emission standards. While electric vehicle adoption is increasing gradually, many consumers still hesitate due to concerns about charging infrastructure and higher upfront costs. Industrial emissions also contribute significantly to air quality deterioration, requiring comprehensive policy reforms beyond just transportation sector changes.

Conclusions:

(I) Vehicle emissions are the primary cause of urban air pollution – False (The statement mentions vehicle emissions and

industrial emissions, so we cannot say vehicle emissions are the primary cause).

(II) Electric vehicle adoption faces practical barriers despite environmental benefits – True (The statement mentions hesitation due to charging infrastructure and higher costs).

(III) Solving air pollution requires multi-sectoral policy interventions – True (The statement mentions industrial emissions and need for policy reforms beyond transportation).

So, Both conclusions II and III follow.

Hence, the correct answer is "Option 3".

Q30. Answer: (c) Use the ID to contact the owner or report to authorities

Given: A man finds a lost wallet in the park with cash and an ID card.

Now,

The most ethical action is to use the ID to contact the owner or report it to the authorities, ensuring the wallet is returned to its rightful owner.

Hence, the correct answer is Option 3.

Q31. Answer: (d) -8/5

BODMAS Table:

Given equation: 11 # 14 * 10 $ 9 = ?

Now, '*' stands for '÷', '%' stands for '+', '#' stands for '−'and '$' stands for '×'

So, the expression becomes:

=> 11 − 14 ÷ 10 × 9 = ?

Now apply BODMAS:

=> 11 − (14 ÷ 10 × 9)

=> 11 − (7/5 × 9)

=> 11 − (63/5)

=> (55 - 63)/5 = -8/5

Hence, the correct answer is -8/5.

Q32. Answer: (c) 61/5

BODMAS Table:

Given equation: 3 % 14 & 5 @ 12 = ?

Now, '@' stands for '+','%' stands for '−','?' stands for '×' and '&' stands for '÷'

So, the expression becomes:

=> 3 − 14 ÷ 5 + 12 = ?

Now apply BODMAS:

=> 3 − (14 ÷ 5) + 12

=> 3 − 14/5 + 12

Convert 3 and 12 into fraction form:

=> 15/5 − 14/5 + 60/5

=> (15 − 14 + 60) / 5

=> 61/5

Hence, the correct answer is "Option 3".

Q33. Answer: (d) Check with the classmate privately and include them while discouraging rumor spreading

Given:

A classmate is being excluded from group study due to a rumor.

The socially responsible action is to act with empathy, fairness, and maturity.

1. Ignore the situation entirely — This avoids responsibility and allows unfair treatment to continue.

2. Join in excluding them to fit in — This supports bullying and unethical behavior.

3. Spread a counter-rumor — This worsens the situation and promotes more negativity.

4. Check with the classmate privately and include them while discouraging rumor spreading — This shows empathy, verifies facts, supports inclusion, and discourages harmful behavior.

Hence, the correct answer is "Option 4".

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Q34. Answer: (b) 10

Given: Total players = 28

Player X is 11th from the start.

Player Y is 7th from the end.

So, position of Y from the start = 28 − 7 + 1

= 22

Now, players between X and Y = 22 − 11 − 1

= 10

So, there are '10' players standing between X and Y.

Hence, the correct answer is "Option 2".

Q35. Answer: (c) 7

Given: Total bulbs = 20

Red bulb is 5th from the left.

Blue bulb is 8th from the right.

So, position of blue bulb from the left = 20 − 8 + 1

= 13

Now, bulbs between red and blue = 13 − 5 − 1

= 7

So, there are '7' bulbs between red and blue.

Hence, the correct answer is "Option 3".

Q36. Answer: (c) Both I and II are strong

Given:

Statement: Should plastic bottles be completely banned?

Now, Arguments:

I. Yes, they pollute the environment – True (This is a strong argument as banning plastic bottles would directly address environmental pollution caused by plastics).

II. No, people still need an affordable container option – True (This is also a strong argument as it considers practical implications and the need for alternatives before banning).

So, Both arguments I and II are strong.

Hence, the correct answer is "Option 3".

Q37. Answer: (c) Both I and II are strong

Given:

Statement: Should social media platforms be strictly regulated to curb misinformation?

Now, Arguments:

I. Yes, misinformation spreads quickly and can cause harm to society – True (This is a strong argument as regulating platforms can help prevent societal harm caused by false information).

II. No, strict regulation may violate freedom of speech – True (This is also a strong argument as it considers the important legal and ethical implications of regulating speech).

So, Both arguments I and II are strong.

Hence, the correct answer is "Option 3".

Q38. Answer: (a) W

The logic followed here is:

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

Hence, the correct answer is "Option 1".

Q39. Answer: (b) T

The logic followed here is:

So, 'T' will replace the question mark in the given series.

Hence, the correct answer is "Option 2".

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Q40. Answer: (c) Relocate vendors to an alternative space and proceed with the park development.

Given:

A local government is planning to develop a public park in a densely populated urban area. However, the land proposed is currently used by street vendors and hawkers for their livelihood.

Judgement:

Option 1) Cancel the park project entirely – Weak (This ignores the public benefit of a park).

Option 2) Evict the vendors immediately and start construction – Weak (This disregards the livelihoods of the vendors and may cause social unrest).

Option 3) Relocate vendors to an alternative space and proceed with the park development – Strong (This balances public interest with the rights and livelihood of the vendors).

Option 4) Build a wall around the area to separate the park from the vendors – Weak (This does not address the issue of land use and vendor livelihoods effectively).

Hence, the correct answer is "Option 3".

Q41. Answer: (b) PORTICO

Given word: PORTFOLIO

Check each option:

Option 1) FORT

→ Letters F, O, R, T are in PORTFOLIO → Can be formed

Option 2) PORTICO

→ Letters P, O, R, T, I, C, O → Letter C is not in PORTFOLIO → Cannot be formed

Option 3) RIFT

→ Letters R, I, F, T are in PORTFOLIO → Can be formed

Option 4) ROOF

→ Letters R, O, O, F are in PORTFOLIO → Can be formed

Hence, the correct answer is "Option 2".

Q42. Answer: (a) Define clear responsibilities with a simple matrix

Given: An NGO's volunteers have overlapping roles, causing confusion.

Now,

The best way to resolve this problem is to define clear responsibilities using a simple responsibility matrix.

This approach clarifies who does what, reduces confusion, and improves efficiency.

Continuously replacing volunteers or leaving it to volunteers to decide can create more disorder, and doing nothing accepts inefficiency.

Hence, the correct answer is Option 1.

Q43. Answer: (d) DW

The logic followed here is:

Logic: In the first pair, the first letter increases by +2 and the second letter decreases by −2 in the English alphabetical order.

Here, AZ : CX

Similarly, BY : ?

So, BY becomes DW.

Hence, the correct answer is "Option 4.".

Q44. Answer: (a) EG

The logic followed here is:

Logic: In the first pair, the first letter decreases by −1, while the second letter remains the same.

Here, DE : CE

E → E (no change)

Similarly, FG : ?

G → G (no change)

So, FG becomes EG.

Hence, the correct answer is "Option 1."

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Q45. Answer: (a) 214

The logic followed here is:

Thus, "214" will replace the question mark in the given series.

Hence, the correct answer is "Option 1".

Q46. Answer: (c) 136

The logic followed here is:

Thus, "136" will replace the question mark in the given series.

Hence, the correct option is "Option 3".

Q47. Answer: (c) 2301

The logic followed here is:

thus, "2301" will replace the question mark in the given series.

Hence, the correct option is "Option 3".

Q48. Answer: (c) 8 : 26

The logic followed here is:

Each pair consists of two consecutive perfect cubes, where the numbers follow the pattern $n^3 : (n+1)^3$.

1) $8 : 27 \rightarrow 2^3 : 3^3$(Follows the pattern)

2) $1 : 8 \rightarrow 1^3 : 2^3$ (Follows the pattern)

4) $27 : 64 \rightarrow 3^3 : 4^3$ (Follows the pattern)

Whereas,

3) $8 : 26 \rightarrow 2^3 : 26$. Since 26 is not a perfect cube (it should be 27), this pair does not follow the pattern.

So, 8 : 26 is the odd pair from the given options.

Hence, the correct answer is "Option 3".

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

Correct Option – 2

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

Enterprise → 2

Entertainment → 1

Entitlement → 3

Entrepreneurial → 4

Environment → 5

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

Hence, the correct answer is "Option (2)".

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

Correct Option – 2

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

Language → 2

Lawyer → 1

Leather → 3

Liberty → 4

Listen → 5

Little → 6

The correct order is '2, 1, 3, 4, 5, 6'.

Hence, the correct answer is "Option (2)".

Q51. Answer: (c) $ 81600

Given:

P, Q, and R started a business.

P's monthly salary = 2000

P's annual salary = 2000 × 12 = 24000

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Investments:
P = 50000
Q = 60000
R = 70000
Total earning of P at the end of the year = 40000
Formula used:
Total earning of P = Salary + Share from remaining profit
Calculations:
P's total earning = 40000
Salary received by P = 24000
Therefore, Share of P from remaining profit = 40000 − 24000
= 16000
Now, remaining profit is divided in the ratio of investments.
Investment ratio:
50000 : 60000 : 70000
= 5 : 6 : 7
Total ratio = 5 + 6 + 7 = 18
P's share = 5/18 of remaining profit
So, 5/18 × Remaining Profit = 16000
Remaining Profit = 16000 × 18 / 5
= 16000 × 3.6
= 57600
Now, Total Profit = Salary paid to P + Remaining Profit
= 24000 + 57600
= 81600
Therefore The correct answer is "Option 3."

Q52. Answer: (a) 120/169

Given:
cosA = 5/13
sinB = 12/13
Formula used:
sinA cosB + cosA sinB = sin (A+B)
Where, sinA = √(1-cos²A)
cosB = √(1-sin²B)
Calculations:
sinA = √(1-(5/13)²)
=> sinA = √(1-25/169)
=> sinA = √(144/169)
=> sinA = 12/13
cosB = √(1-(12/13)²)
=> cosB = √(1-144/169)
=> cosB = √(25/169)
=> cosB = 5/13
sinA cosB + cosA sinB = 12/13 × 5/13 + 5/13 × 12/13
=> 60/169 + 60/169
=> 120/169
Therefore The correct answer is option (1).

Q53. Answer: (c) 0% gain/loss

Given:
Selling price of first sugar (SP1) = Rs. 40 per kg

Profit on first sugar = 25%
Selling price of second sugar (SP2) = Rs. 30 per kg
Loss on second sugar = 25%
Equal quantities are mixed.
Selling price of mixture = Rs. 36 per kg
Formula used:
SP = CP × (1 + Profit%)
SP = CP × (1 − Loss%)
Profit% or Loss% = (Profit or Loss / Total CP) × 100
Calculations:
Step 1: Find Cost Price (CP) of first sugar
SP1 = CP1 × (1 + 25/100)
40 = CP1 × (125/100)
40 = CP1 × 1.25
CP1 = 40 / 1.25
CP1 = 32
So, CP1 = Rs. 32 per kg
Step 2: Find Cost Price (CP) of second sugar
SP2 = CP2 × (1 − 25/100)
30 = CP2 × (75/100)
30 = CP2 × 0.75
CP2 = 30 / 0.75
CP2 = 40
So, CP2 = Rs. 40 per kg
Step 3: Since equal quantities are mixed
Average CP of mixture
= (32 + 40) / 2
= 72 / 2
= Rs. 36 per kg
Step 4: Compare with selling price of mixture
SP of mixture = Rs. 36 per kg
CP of mixture = Rs. 36 per kg
Profit/Loss = SP − CP
= 36 − 36
= 0
Profit/Loss percentage
= (0 / 36) × 100
= 0%
Therefore The correct answer is “Option 3.”

Q54. Answer: (d) 10%

Given:
Amount at the end of 2nd year (A2) = Rs. 4232
Amount at the end of 3rd year (A3) = Rs. 4655.20
Formula used:
In Compound Interest, A3 = A2 (1 + r/100)
Calculations:
4655.20 = 4232 (1 + r/100)
Divide both sides by 4232:
4655.20 / 4232 = 1 + r/100
1.10 = 1 + r/100
r/100 = 1.10 − 1

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r/100 = 0.10
r = 10%
Therefore The correct answer is “Option 4.”

Q55. Answer: (b) 53.73

Given:
Sum of three numbers = 180
Ratio of first to second = 3 : 5
Ratio of second to third = 4 : 7
Formula used:
If ratios are given separately, make the common term (second number) equal and then form a single ratio.
Calculations:
First : Second = 3 : 5
Second : Third = 4 : 7
Make the second term same in both ratios.
LCM of 5 and 4 = 20
Multiply first ratio by 4:
3 × 4 : 5 × 4 = 12 : 20
Multiply second ratio by 5:
4 × 5 : 7 × 5 = 20 : 35
Now combined ratio:
First : Second : Third = 12 : 20 : 35
Total parts = 12 + 20 + 35 = 67
Let each part = x
Then, 67x = 180
x = 180 / 67
x ≈ 2.686
Second number = 20x
= 20 × 2.686
≈ 53.73
Therefore The correct answer is “Option 2.”

Q56. Answer: (c) Rs. 80

Given:
Total students = 7
Boys = 4, Girls = 3
Average spending of all = Rs. 120
Average spending of boys = Rs. 150
Formula used:
Total spending = Average × Total students
Spending of girls = Total spending - Spending of boys
Average spending of girls = Spending of girls ÷ Number of girls
Calculation:
Total spending = 120 × 7
=> Total spending = Rs. 840
Spending of boys = 150 × 4
=> Spending of boys = Rs. 600
Spending of girls = 840 - 600
=> Spending of girls = Rs. 240
Average spending of girls = 240 ÷ 3
=> Average spending of girls = Rs. 80
Therefore The correct answer is option (3).

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Q57. Answer: (b) 21 cm

Given:
Length of courtyard = 3.78 m
Breadth of courtyard = 5.25 m
Tiles are square and of same size.
To find: Largest size of the tile.
Formula used:
Largest size of square tile = HCF of length and breadth (in same units)
Calculations:
Step 1: Convert meters to centimeters
Length = 3.78 m = 378 cm
Breadth = 5.25 m = 525 cm
Step 2: Find HCF of 378 and 525
Using Euclid's method:
525 ÷ 378 = 1 remainder 147
378 ÷ 147 = 2 remainder 84 → Wait let's check carefully:
Actually, 378 ÷ 147 = 2 × 147 = 294, remainder 378 − 294 = 84
147 ÷ 84 = 1 remainder 63
84 ÷ 63 = 1 remainder 21
63 ÷ 21 = 3 remainder 0
So, HCF = 21 cm
Therefore The correct answer is "Option 2."

Q58. Answer: (b) Rs. 58,320

Given:
Initial Value (P) = Rs. 80,000
Depreciation Rate (r) = 10%
Time (t) = 3 years
Formula used:
A = P × (1 - r/100)^t
Calculations:
A = 80,000 × (1 - 10/100)³
=> A = 80,000 × (1 - 0.1)³
=> A = 80,000 × 0.9³
=> A = 80,000 × 0.729
=> A = Rs. 58,320
Therefore The correct answer is option (2).

Q59. Answer: (a) 12 days

Given:
A completes work in = 12 days
B completes work in = 24 days
Both work together for = 4 days
Calculation:
LCM of 12 and 24 = 24 units (Total work)
Efficiency of A = 24 ÷ 12 = 2 units/day
Efficiency of B = 24 ÷ 24 = 1 unit/day
Combined efficiency = 2 + 1 = 3 units/day
Work done in 4 days = 3 × 4 = 12 units
Remaining work = 24 − 12 = 12 units
Now B alone works = Efficiency of B = 1 unit/day
Time to finish remaining work = 12 ÷ 1 = 12 days

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Therefore B will finish the job in 12 more days.

Q60. Answer: (b) 19%

Given:

Marked Price (MP) = 140% of Cost Price (CP)

Discount = 15%

Calculations:

SP = MP × (1 - Discount)

=> SP = 140 × (1 - 0.15)

=> SP = 140 × 0.85

=> SP = 119% of CP

Profit Percentage = (SP - CP)/CP × 100

=> Profit Percentage = (119 - 100)/100 × 100

=> Profit Percentage = 19%

Therefore The correct answer is option (2).

Q61. Answer: (d) $ 12,000

Given:

Total investment = 25000

Rate A = 4%

Rate B = 6.5%

Time = 3 years

Total interest = 3975

Formula used:

SI = P × R × T ÷ 100

Calculation:

Let amount in A = x

Then amount in B = 25000 − x

Interest from A => x × 4 × 3 ÷ 100 = 12x ÷ 100

Interest from B => (25000 − x) × 6.5 × 3 ÷ 100

=> (25000 − x) × 19.5 ÷ 100

Total interest => 12x ÷ 100 + 19.5(25000 − x) ÷ 100 = 3975

Multiply by 100

=> 12x + 19.5(25000 − x) = 397500

=> 12x + 487500 − 19.5x = 397500

=> −7.5x + 487500 = 397500

=> −7.5x = −90000

=> x = 12000

Therefore Amount invested in Account A = Rs. 12000.

Q62. Answer: (a) 106

Given:

x + y + z = 16

xy + yz + zx = 75

Formula used:

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

Calculations:

2(xy + yz + zx) = 2 × 75 = 150

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

$x^2 + y^2 + z^2 = 256 - 150$

$x^2+ y^2+ z^2= 106$

Therefore The correct answer is “Option 1.”

Q63. Answer: (a) 144

Shortcut Trick

The smallest number divisible by both 16 and 36 is their Least Common Multiple (LCM).

LCM of 16 and 36 → 16 × 9 = 144.

Check if 144 is a perfect square: √144 = 12.

Since 144 is already a perfect square, it is the smallest such number.

Therefore The correct answer is 144.

Alternate Method

Given: Numbers are 16 and 36.

Formula Used: Prime factorization and LCM.

=> Prime factorization of 16 = 2 × 2 × 2 × 2 = 2^4

=> Prime factorization of 36 = 2 × 2 × 3 × 3 = $2^2 \times 3^2$

=> LCM (16, 36) = $2^4 \times 3^2 = 16 \times 9 = 144$

=> For a number to be a perfect square, all exponents in its prime factorization must be even.

=> In $144 = 2^4 \times 3^2$, the exponents 4 and 2 are both even.

=> Thus, 144 is a perfect square (12^2).

Therefore The correct answer is 144.

Additional Information

Perfect Square Property

A number is a perfect square if and only if every prime factor in its prime factorization occurs an even number of times (e.g., n = p^(2a) × q^(2b)).

Least Common Multiple (LCM)

The LCM of two numbers is the smallest positive integer that is divisible by both. It is found by taking the highest power of every prime factor present in the numbers.

Smallest Square Multiple Rule

To find the smallest perfect square divisible by certain numbers, first find their LCM. If any prime factor in the LCM has an odd exponent, multiply the LCM by that factor to make the exponent even.

Q64. Answer: (b) 43 : 45

Given:

Total mixture = 80 liters

Ratio (acid : water) = 7 : 9

Acid added = 8 liters

Formula used:

Quantity = (Ratio part ÷ Total ratio) × Total

Calculation:

Total ratio = 7 + 9 = 16

Initial acid => 7 ÷ 16 × 80 = 35 liters

Initial water => 9 ÷ 16 × 80 = 45 liters

After adding acid = 35 + 8 = 43 liters

Water = 45 liters

New ratio => 43 : 45

Therefore New ratio = 43 : 45.

Q65. Answer: (d) 153. 94 cm^2

Given:

Side of square = 14 cm

Circle is inscribed in the square

Formula used:

Area of circle = $\pi \times r^2$

Calculation:

Diameter of circle = Side of square = 14 cm

=> Radius r = 14 ÷ 2 = 7 cm

Area of circle

=> (22 ÷ 7) × 7 × 7

=> 22 × 7

=> 154 cm^2 ≈ 153. 94 cm^2

Therefore The correct answer is option 4.

Q66. Answer: (b) 1:3

Given:

Radius of sphere = r

Radius of cylinder = 2r

Height of cylinder = h

Formula used:

Volume of sphere = $4/3\pi r^3$

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

As the sphere is melted and recast into a cylinder:

Volume of sphere = Volume of cylinder

Calculations:

$4/3\pi r^3 = \pi (2r)^2 h$

=> $4/3r^3 = 4r^2 h$

=> $(4r^3)/3 = 4r^2 h$

=> $r/3 = h$

=> h:r = 1:3

Therefore The correct answer is option (2).

Q67. Answer: (a) 2.25 units

Given:

Let the radius of the solid hemisphere and sphere be r.

Total Surface Area of Hemisphere (TSA) = Volume of Sphere (V)

Formula used:

TSA of Hemisphere = $3\pi r^2$

Volume of Sphere = $(4/3)\pi r^3$

Calculation:

$3\pi r^2 = (4/3)\pi r^3$

=> $3r^2 = (4/3)r^3$

=> $9r^2 = 4r^3$ (Multiplying both sides by 3)

=> r = 9/4

=> r = 2.25

Therefore The correct answer is option (1).

Q68. Answer: (c) 7/12

Shortcut Trick

Check options based on the given conditions:

Condition 1: Denominator − Numerator = 5. In option (3), 12 − 7 = 5.

Condition 2: Add 3 to both: (7 + 3) ÷ (12 + 3) = 10 ÷ 15 = 2/3.

The fraction 7/12 satisfies both the conditions perfectly.

Therefore The correct answer is 7/12.

Alternate Method

Given: Difference between denominator and numerator = 5. Resultant fraction after adding 3 to both = 2/3.

Formula: Original Fraction = Numerator / Denominator

Let the numerator be x.

Then the denominator = x + 5.

Original fraction = x / (x + 5)

According to the question:

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=> (x + 3) / (x + 5 + 3) = 2/3

=> (x + 3) / (x + 8) = 2/3

=> 3 × (x + 3) = 2 × (x + 8)

=> 3x + 9 = 2x + 16

=> 3x − 2x = 16 − 9

=> x = 7

Numerator = 7

Denominator = 7 + 5 = 12

Therefore The correct answer is 7/12.

Additional Information

Proper Fraction

A fraction where the numerator is less than the denominator (e.g., 7/12).

Improper Fraction

A fraction where the numerator is greater than or equal to the denominator (e.g., 12/7).

Equivalent Fractions

Fractions that represent the same value even though they look different, found by multiplying/dividing numerator and denominator by the same number.

Reciprocal

The reciprocal of a fraction a/b is b/a. The product of a fraction and its reciprocal is always 1.

Q69. Answer: (a) 1298

Given:

b − 1/b = 3

Formula used:

$(b - 1/b)^2 = b^2 + 1/b^2 - 2$

$(b^2 + 1/b^2)^2 = b^4 + 1/b^4 + 2$

$(b^2 + 1/b^2)(b^4 + 1/b^4) = b^6 + 1/b^6 + b^2 + 1/b^2$

Calculation:

$(b - 1/b)^2 = 3^2$

$\Rightarrow b^2 + 1/b^2 - 2 = 9$

$\Rightarrow b^2 + 1/b^2 = 11$

Now, $(b^2 + 1/b^2)^2 = 11^2$

$\Rightarrow b^4 + 1/b^4 + 2 = 121$

$\Rightarrow b^4 + 1/b^4 = 119$

Now

$(b^2 + 1/b^2)(b^4 + 1/b^4)$

$\Rightarrow 11 \times 119 = 1309$

$\Rightarrow b^6 + 1/b^6 + 11 = 1309$

$\Rightarrow b^6 + 1/b^6 = 1309 - 11$

$\Rightarrow 1298$

Therefore Required value = 1298.

Q70. Answer: (c) 5

Given:

(√45 + √20)/√5

Formula used: a√b+c√b=a+c√b

Calculations:

Simplify the square roots in the numerator:

√45 = √9 x 5 = 3√5

√20 = √ 4 x 5 = 2√ 5

Substitute back into the expression:

3√5 + 2√5 / √5

Combine like terms and devide:

5√5 / √5 = 5

Therefore The correct answer is “Option 3.”

Q71. Answer: (c) 1 - tan²(x)

Given:

(cos²x − sin²x) ÷ (1 − sin²x)

Formula used:

cos²x − sin²x = cos2x

1 − sin²x = cos²x

Calculation:

=> (cos²x − sin²x) ÷ (1 − sin²x)

=> (cos²x − sin²x) ÷ cos²x

=> (cos²x ÷ cos²x) − (sin²x ÷ cos²x)

=> 1 − tan²x

Therefore Simplified value = 1 − tan²x.

Q72. Answer: (a) 4/5

Given:

sin2A = 3/5

Formula used:

sin²θ + cos²θ = 1

Calculation:

cos²2A = 1 − sin²2A

=> 1 − (3/5)²

=> 1 − 9/25

=> 16/25

=> cos2A = 4/5

Therefore cos2A = 4/5.

Q73. Answer: (a) sinA= 2/√5, cosA= 1/√5

Given:

sin²A+cos²A=1

tanA = 2

Formula used:

tanA = (sin A)/(cos A)

sin²A+cos²A=1

Calculation:

tanA = 2 = (sin A)/(cos A)

=> sinA = 2 × cosA

sin²A + cos²A = 1

=> (2 cos A)² + cos²A = 1

=> (4cos²A) + cos²A = 1

=> (5cos²A) = 1

=> cos²A = 1/5

=> cosA = 1/√5

sinA = 2 × cosA

=> sinA = 2 × 1/√5

=> sinA = 2/√5

Therefore The correct answer is option (1): sinA = 2/√5, cosA = 1/√5.

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Q74. Answer: (c) 6

Shortcut Trick

The slope (m) is the ratio of the change in y-coordinates to the change in x-coordinates: m = Δy / Δx.

Given m = 2, Δy = 2 − (−4) = 6, and Δx = x − 3.

=> 2 = 6 / (x − 3)

=> x − 3 = 6 / 2 = 3

=> x = 3 + 3 = 6

Therefore The correct answer is 6.

Alternate Method

Given:

Point 1: (x1, y1) = (x, 2)

Point 2: (x2, y2) = (3, −4)

Slope: m = 2

Formula Used:

The slope of a line passing through (x1, y1) and (x2, y2) is: m = (y2 − y1) / (x2 − x1)

Calculations:

=> m = (y2 − y1) / (x2 − x1)

=> 2 = (−4 − 2) / (3 − x)

=> 2 = −6 / (3 − x)

=> 2 × (3 − x) = −6

=> 6 − 2x = −6

=> −2x = −6 − 6

=> −2x = −12

=> x = −12 / −2

=> x = 6

Therefore The correct answer is 6.

Additional Information

Slope-Intercept Form

The equation of a line can be written as y = mx + c, where m is the slope and c is the y-intercept.

Parallel and Perpendicular Lines

Two lines are parallel if their slopes are equal (m1 = m2) and perpendicular if the product of their slopes is −1 (m1 × m2 = −1).

Point-Slope Form

The equation of a line passing through (x1, y1) with slope m is given by y − y1 = m(x − x1).

Q75. Answer: (a) 45 seconds

Given:

Time taken to walk up moving-up escalator = 30 sec

Time taken to walk down moving-up escalator = 90 sec

Formula used:

Relative speed concept: Speed of man + Speed of escalator = Speed while walking up

Speed of man - Speed of escalator = Speed while walking down

Time = Distance / Speed

Calculation:

Let the speed of the man be M and the speed of the escalator be E. Assume the distance to be D.

From the given data:

=> D / (M + E) = 30

=> D / (M - E) = 90

Taking LCM of 30 and 90 to equate distances:

=> (M + E) × 90 = (M - E) × 30

=> 90M + 90E = 30M - 30E

=> 90M - 30M = -90E - 30E

=> 60M = 120E

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=> M / E = 2

Now, substitute back into D / (M + E) = 30:

=> D / (2E + E) = 30

=> D / 3E = 30

=> D = 90E

Time taken when the escalator is not moving:

=> Time = D / M

=> Time = 90E / 2E

=> Time = 45 seconds

Therefore The correct answer is option (1).

Q76. Answer: (b) Shila Dawre

The correct answer is Shila Dawre.

Key Points

• Shila Dawre became the first female auto-rickshaw driver in India in 1988, breaking gender stereotypes in the traditionally male-dominated profession of auto-rickshaw driving.

• She hailed from Pune, Maharashtra, and her determination to challenge societal norms made her a role model for women in India aspiring to enter unconventional careers.

• Despite facing societal challenges and gender bias, she persevered and paved the way for more women to take up similar roles in the transport sector.

• The achievement of Shila Dawre is significant in promoting gender equality in employment and bringing attention to the capabilities of women in unconventional fields.

• Her story has inspired many women to challenge gender stereotypes and pursue careers in male-dominated professions, including public transport services.

Additional Information

• Radhika Menon:

• She is the first woman captain in the Indian Merchant Navy.

• She was awarded the IMO Award for Exceptional Bravery at Sea in 2016 for her role in a rescue operation.

• Her contributions are significant in the maritime sector, but she is unrelated to the field of auto-rickshaw driving.

• Parul Parmar:

• She is a celebrated Para-Badminton player from India.

• She has won several medals in international para-badminton tournaments, including the World Championships.

• Her achievements are in the field of sports, not transportation.

• Debala Mitra:

• She was the first female director general of the Archaeological Survey of India (ASI).

• Her work focused on preserving and restoring Indian heritage and archaeological sites.

• Her contributions were significant in the field of archaeology, not in auto-rickshaw driving.

Important Points

• The achievement of Shila Dawre marked a turning point in India's public transport sector by showing that women can excel in any field, including those traditionally dominated by men.

• Her efforts align with the broader goals of promoting women's empowerment and gender equality in India, which have been emphasized in various government and non-governmental initiatives.

• Her story has inspired similar initiatives to train women as drivers for public transport, ensuring greater safety and representation of women in the workforce.

Q77. Answer: (a) Justice Arun Palli

The correct answer is Justice Arun Palli.

Key Points

• Justice Arun Palli is the current Chief Justice of the Jammu & Kashmir and Ladakh High Court as of 31st July 2025.

• He was appointed to this position after serving as a judge in the Punjab and Haryana High Court.

• Justice Arun Palli has a distinguished legal career, known for his expertise in constitutional and civil law.

• The Jammu & Kashmir and Ladakh High Court is a common High Court for both Union Territories, established after the bifurcation of the erstwhile state of Jammu and Kashmir under the Jammu and Kashmir Reorganization Act, 2019.

• As Chief Justice, his role includes overseeing judicial administration and ensuring the timely delivery of justice in the Union

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Territories.

Additional Information

• Jammu & Kashmir Reorganization Act, 2019:

• This act was passed by the Indian Parliament to bifurcate the state of Jammu and Kashmir into two Union Territories – Jammu & Kashmir (with a legislature) and Ladakh (without a legislature).

• The High Court of Jammu & Kashmir and Ladakh serves both Union Territories, ensuring judicial independence and access to justice.

• Role of the Chief Justice:

• The Chief Justice is the head of the High Court and is responsible for judicial and administrative functions.

• They ensure the smooth functioning of the court and oversee the allocation of cases among judges.

• The Chief Justice plays a critical role in maintaining the integrity and efficiency of the judiciary in the region.

• Other Notable Judges:

• Justice Bhushan Ramkrishna Gavai: Currently a judge in the Supreme Court of India, he has delivered several landmark judgments but is not associated with the Jammu & Kashmir and Ladakh High Court.

• Justice Dinesh Maheshwari: Also a judge in the Supreme Court of India, he specializes in administrative and constitutional law.

• Judge Kaveri Baweja: She is not currently serving in the Jammu & Kashmir and Ladakh High Court or as Chief Justice.

• Judiciary in Union Territories:

• The judiciary in Union Territories functions under the supervision of the respective High Courts.

• The Jammu & Kashmir and Ladakh High Court plays a pivotal role in addressing legal issues unique to the region.

Important Points

• Judicial Appointments:

• The Chief Justice of a High Court is appointed by the President of India in consultation with the Chief Justice of India and the Governor of the respective state/Union Territory.

• This process ensures transparency and meritocracy in the judiciary.

• Judicial Reforms:

• The Government of India has introduced several reforms to streamline judicial processes and reduce pendency in courts.

• Digitization of court records and e-court initiatives have been implemented to improve efficiency.

• History of the Jammu & Kashmir High Court:

• The High Court of Jammu & Kashmir was established in 1928 during the reign of Maharaja Hari Singh.

• Post reorganization in 2019, it became the High Court for both Jammu & Kashmir and Ladakh.

Q78. Answer: (a) Ministry of Youth Affairs and Sports

The correct answer is Ministry of Youth Affairs and Sports.

Key Points

• The Youth Spiritual Summit held in July 2025 was organized by the Ministry of Youth Affairs and Sports. This ministry is primarily responsible for developing and empowering youth in India.

• The Ministry of Youth Affairs and Sports aims to engage young minds in holistic development by promoting initiatives like leadership skills, cultural awareness, and spiritual growth.

• The focus of the Youth Spiritual Summit 2025 was to foster spiritual education and moral values among the youth, aligning with broader objectives of national development.

• Through such initiatives, the ministry seeks to encourage the youth to contribute positively to society while also promoting mental well-being and emotional stability.

• The summit also highlighted the importance of spirituality as a tool for self-growth and personal empowerment, resonating with the government's agenda of nurturing well-rounded, responsible individuals.

Additional Information

• Ministry of Youth Affairs and Sports:

• Established in 1985, the Ministry of Youth Affairs and Sports is responsible for promoting youth development and sports activities across India.

• Programs under this ministry include the National Youth Policy, National Service Scheme (NSS), and National Youth Festivals, among others.

• The ministry works to cultivate leadership and instill a sense of national integration and responsibility among the youth.

• Importance of Youth in Nation-Building:

• Youth represent around 34% of the Indian population, making them a significant demographic for driving change and progress.

• Engaging youth in programs like spiritual summits helps create a balance between technological advancement and ethical, moral

grounding.

• Spirituality and Youth:

• Studies suggest that spiritual practices can improve mental health, reduce stress, and foster resilience among young individuals.

• Events like the Youth Spiritual Summit bring attention to the importance of self-awareness and mindfulness.

• Other Relevant Ministries:

• NITI Aayog:

• Established on 1 January 2015, replacing the Planning Commission.

• Full Form: National Institution for Transforming India.

• Chairperson: The Prime Minister of India is the ex-officio Chairperson.

• Objective: To promote Cooperative Federalism and involve states in policy-making.

• Nature: It works as the policy think tank of the Government of India.

• Major Initiatives: Aspirational Districts Programme and monitoring of SDGs.

• Headquarters: New Delhi.

• First CEO: Amitabh Kant (2016–2022).

• Present CEO: B. V. R. Subrahmanyam (2023–Present).

• TATA Trusts: A philanthropic organization that supports various social causes but does not have direct government involvement in youth-related summits.

• Ministry of Education: Primarily focuses on academic and skill-based programs rather than spiritual initiatives.

Important Points

• National Youth Policy 2014:

• This policy aims to empower youth (15-29 years) to achieve their full potential and contribute to India's development.

• It emphasizes the need for education, employment, entrepreneurship, and well-being.

• National Service Scheme (NSS):

• Introduced in 1969, NSS engages students in community service, fostering a sense of social responsibility and leadership.

• Fit India Movement:

• Launched in 2019 by the Ministry of Youth Affairs and Sports to promote fitness and a healthy lifestyle among Indians.

Q79. Answer: (b) Tribal communities in aspirational areas

The correct answer is Tribal communities in aspirational areas.

Key Points

• Pradhan Mantri Janjatiya Unnat Gram Abhiyan was launched in 2024 by the Government of India to promote the holistic development of tribal communities in designated aspirational areas.

• The initiative aims to address the socio-economic disparities faced by tribal communities by focusing on healthcare, education, skill development, and infrastructure development.

• The scheme prioritizes areas identified under the 'Aspirational Districts Programme', targeting regions with significant tribal populations and low Human Development Index (HDI).

• It seeks to promote sustainable livelihoods and economic empowerment for tribal people through initiatives like agriculture support, forest-based economy enhancement, and micro-enterprise development.

• The scheme is aligned with the goals of inclusivity, equity, and social justice, ensuring that tribal communities are not left behind in India's development journey.

Additional Information

• Aspirational Districts Programme (ADP):

• Launched in 2018, ADP aims to transform 112 backward districts in India by improving key indicators in health, nutrition, education, agriculture, financial inclusion, and skill development.

• The programme emphasizes a data-driven approach and promotes competition among districts to achieve progress.

• Tribal-dominated areas form a major part of these districts, making them a focus for inclusive development initiatives like Pradhan Mantri Janjatiya Unnat Gram Abhiyan.

• Key Features of Tribal Development Schemes:

• Programs like Van Dhan Yojana support tribal entrepreneurs through value addition of Minor Forest Produce (MFP) and marketing support.

• Educational initiatives such as Eklavya Model Residential Schools (EMRS) provide quality education to tribal children in remote areas.

• Healthcare-focused schemes aim at reducing maternal and infant mortality rates among tribal populations through institutional deliveries and immunization drives.

• Socio-economic Challenges Faced by Tribal Communities:

• Tribal communities often face issues like poverty, illiteracy, malnutrition, and lack of healthcare facilities.

• They are heavily dependent on natural resources and face challenges due to deforestation, climate change, and displacement.

• Other Government Initiatives for Tribal Welfare:

• The Integrated Tribal Development Project (ITDP) focuses on improving living standards in tribal areas.

• The Tribal Sub-Plan (TSP) allocates funds for the welfare of Scheduled Tribes in various sectors.

• Skill development programs aim to provide employment opportunities to tribal youth in various trades and industries.

Important Points

• Tribal population in India: According to the 2011 Census, tribal communities constitute approximately 8.6% of India's total population, with significant concentration in states like Madhya Pradesh, Odisha, Jharkhand, Chhattisgarh, and Rajasthan.

• Article 46 of the Indian Constitution: It directs the State to promote the educational and economic interests of Scheduled Castes, Scheduled Tribes, and other weaker sections.

• Forest Rights Act, 2006: Provides recognition and vesting of forest rights to forest-dwelling communities, ensuring their livelihood and cultural preservation.

Q80. Answer: (b) 3

The correct answer is 2.

Key Points

• The Financial Inclusion Index (FI-Index) in India was introduced by the Reserve Bank of India (RBI) in July 2021 to measure the level of financial inclusion across the country.

• The FI-Index comprises three sub-indices: Access, Usage, and Quality. These sub-indices are weighted to provide a comprehensive score representing the state of financial inclusion.

• Access: This sub-index measures the extent of availability of financial services, including the number of bank branches, ATMs, and banking correspondents.

• Usage: It captures the frequency and volume of transactions by individuals and entities, reflecting the extent of utilization of financial services.

• Quality: It evaluates the quality aspects of financial inclusion, such as financial literacy, consumer protection, and the resolution of grievances related to financial services.

• The FI-Index is computed annually and ranges from 0 to 100, where 0 denotes complete financial exclusion and 100 represents full financial inclusion.

Additional Information

• Objective of Financial Inclusion Index:

• The FI-Index aims to provide policymakers and stakeholders with a comprehensive tool to assess the progress of financial inclusion and identify gaps for targeted interventions.

• It is a part of the broader initiative to achieve inclusive growth by bringing the unbanked population into the formal financial system.

• Features of Financial Inclusion in India:

• India has made significant strides in financial inclusion through initiatives such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), which provides access to basic bank accounts.

• Other schemes like Direct Benefit Transfers (DBT) and Digital India have further enhanced financial inclusion by promoting digital payments and banking services.

• Global Context of Financial Inclusion:

• The concept of financial inclusion is recognized globally as a key driver of economic development and poverty reduction.

• International organizations such as the World Bank and IMF emphasize financial inclusion as a critical component of their development agenda.

• Important Facts:

• India's FI-Index complements global indices such as the Global Findex Database created by the World Bank.

• The Reserve Bank of India has also launched various regulatory measures to promote financial inclusion, such as priority sector lending targets for banks.

Important Points

• Reserve Bank of India (RBI):

• The RBI serves as the central bank of India and plays a crucial role in promoting financial inclusion through various policies and frameworks.

• It launched the Financial Inclusion Index to track progress and enhance efforts for financial inclusion.

• Pradhan Mantri Jan Dhan Yojana (PMJDY):

• Launched in August 2014, PMJDY is India's flagship financial inclusion program aimed at providing universal access to banking facilities.

• It has been instrumental in connecting millions of unbanked individuals to the formal financial system.

• Financial Literacy:

• Financial literacy is a key component of the FI-Index's quality sub-index, emphasizing the importance of educating individuals about financial products and services.

• RBI and other stakeholders have launched numerous initiatives to promote financial literacy across India.

Q81. Answer: (b) Chhattisgarh

The correct answer is Chhattisgarh.

Key Points

• Chhattisgarh became the first state in India to link the forest ecosystem services to the state’s green Gross Domestic Product (GDP).

• This innovative step was taken to calculate the economic value of the services provided by forests, such as carbon sequestration, soil conservation, water recharge, and biodiversity preservation.

• The initiative was launched under the leadership of the Chhattisgarh Forest Department to promote sustainable development and ensure the integration of environmental factors into economic decision-making processes.

• By linking forest ecosystems to green GDP, the state aims to highlight the economic contributions of forests and emphasize their importance in tackling climate change and improving livelihood opportunities for forest-dependent communities.

• The move aligns with global efforts like the United Nations Sustainable Development Goals (SDGs), particularly focusing on SDG 13 (Climate Action) and SDG 15 (Life on Land).

Additional Information

• Green GDP:

• Green GDP is an economic growth indicator that takes into account environmental consequences, such as the depletion of natural resources and ecological degradation.

• It aims to measure the sustainability of economic progress, factoring in the costs of environmental harm and benefits provided by ecosystems.

• Incorporating green GDP helps governments and policymakers in ensuring a balance between economic growth and environmental conservation.

• Forest Ecosystem Services:

• Forests provide a wide range of services, including carbon storage, water filtration, climate regulation, and biodiversity preservation.

• They are crucial in mitigating the effects of climate change by absorbing carbon dioxide and producing oxygen.

• Forests also support the livelihoods of millions of people, particularly in rural and tribal areas, through non-timber forest products and eco-tourism.

• Chhattisgarh's Forest Coverage:

• Chhattisgarh has a substantial forest cover, accounting for approximately 44% of its geographical area, making it one of the most forested states in India.

• The state is home to rich biodiversity, including several endangered species, and plays a pivotal role in maintaining the ecological balance in the central Indian region.

• Efforts like linking forest ecosystems to green GDP help in conserving these forests while promoting sustainable development.

• United Nations Sustainable Development Goals (SDGs):

• The SDGs are a set of 17 global goals adopted by the United Nations in 2015 to address issues like poverty, inequality, climate change, and environmental degradation by 2030.

• Chhattisgarh's initiative of linking forests to green GDP aligns with SDG 13 (Climate Action) and SDG 15 (Life on Land), promoting sustainable management of forests and combating climate change.

Important Points

• Carbon Sequestration: Forests act as carbon sinks by absorbing atmospheric carbon dioxide and storing it in biomass and soil, thus helping mitigate global warming.

• Biodiversity Conservation: Chhattisgarh's forests are home to a wide variety of flora and fauna, including several endemic and endangered species.

• Sustainable Livelihoods: The state's forest-dependent communities benefit from initiatives that promote sustainable harvesting of non-timber forest products like tendu leaves, sal seeds, and medicinal plants.

• Policy Implications: Linking forest ecosystems to green GDP sets an example for other states and countries to adopt similar measures to integrate environmental sustainability into economic policies.

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Q82. Answer: (a) Muri

The correct answer is Muri.

Key Points

• The Muri is a traditional wind instrument used by the Dimasa tribe of Assam, India.

• It is primarily employed during cultural celebrations, songs, and dances of the Dimasa community, symbolizing their rich heritage.

• The instrument is made of bamboo, which is abundantly available in the region, showcasing the tribe's connection with nature and sustainable practices.

• During traditional Dimasa festivals such as Bushu Dima, the Muri is played to accompany folk songs and dances, creating a harmonious blend of music and movement.

• The Muri reflects the identity and cultural essence of the Dimasa tribe, making it a vital part of their social and ceremonial activities.

Additional Information

• Dimasa Tribe:

• The Dimasa are one of the indigenous tribes of Assam, primarily residing in the Karbi Anglong and North Cachar Hills districts.

• They have a rich cultural history, including unique traditions, festivals, and folk music, which play a significant role in their community.

• Their language, Dimasa, is a branch of the Tibeto-Burman language family.

• Traditional attire and ornaments are integral to Dimasa culture, often paired with performances involving the Muri instrument.

• Muri Instrument:

• The Muri is crafted from bamboo, showcasing the tribe's reliance on natural resources.

• This wind instrument is simple yet produces melodious sounds that enhance festive moods.

• It requires skill to play, and the technique is often passed down through generations.

• It is used in folk music as a symbol of cultural pride and identity.

• Festivals of the Dimasa Tribe:

• Bushu Dima: Celebrated annually, this is the most significant festival of the Dimasa tribe, involving music, dance, and community feasts.

• Traditional instruments like the Muri are played during the festival to accompany folk dances and songs.

• It is a celebration of harvest and community bonding.

• Other Musical Instruments:

• Harp: A string instrument mostly used in Western classical and folk music; it is not linked with Dimasa culture.

• Cymbal: A percussion instrument used in various musical genres, especially in classical and folk music; it does not relate to the Dimasa tribe.

• Santoor: A string instrument primarily used in Kashmiri and Indian classical music; it is unrelated to the Dimasa tribe's cultural practices.

Q83. Answer: (d) Amitabha Bagchi

The correct answer is Amitabha Bagchi.

Key Points

• Amitabha Bagchi is the author of the book "The Householder." The novel explores themes of family, societal expectations, and moral dilemmas.

• The Householder is a contemporary Indian novel that provides insight into the struggles and complexities of middle-class Indian life.

• Amitabha Bagchi is known for his vivid storytelling and ability to portray realistic characters, often with a focus on urban and societal settings.

• This book stands out for its deep exploration of human relationships and the challenges of balancing personal and societal responsibilities.

• Bagchi has authored several critically acclaimed novels, including "Above Average" and "Half the Night is Gone," which won the DSC Prize for South Asian Literature.

Additional Information

• Ruskin Bond:

• Ruskin Bond is a celebrated Indian author known for his works based in the hills of India, particularly Mussoorie.

• His notable works include "The Room on the Roof" and "The Blue Umbrella." These works often highlight themes of nature, childhood, and human connections.

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• Bond's writing style is simple yet evocative, appealing to readers of all ages.
• Satyajit Ray:
• Satyajit Ray was a legendary filmmaker, writer, and artist from India, renowned for his contribution to cinema and literature.
• He is best known for creating the Feluda series, a collection of detective stories, and "The Adventures of Professor Shonku."
• Ray's works often blend elements of mystery, science fiction, and cultural richness.
• Arun Joshi:
• Arun Joshi was an Indian author known for his introspective novels that delve into existential themes.
• His notable works include "The Foreigner" and "The Apprentice."
• Joshi's writing often reflects the psychological struggles of individuals in urban settings.
• Amitabha Bagchi:
• Amitabha Bagchi's novels focus on contemporary issues faced by individuals in urban and middle-class settings.
• His work, "Half the Night is Gone," won the DSC Prize for South Asian Literature.
• Bagchi is celebrated for his ability to capture the nuances of human relationships and societal expectations.

Important Points

• Amitabha Bagchi's Writing Style:
• Bagchi's writing is known for its depth, emotional resonance, and realistic portrayal of characters.
• His books often explore themes such as morality, societal pressures, and interpersonal relationships.
• He is particularly skilled at depicting the struggles of the Indian middle-class, making his works relatable and impactful.
• Contemporary Indian Literature:
• Authors like Amitabha Bagchi contribute significantly to the genre by highlighting modern societal issues and personal dilemmas.
• Such novels provide a window into the evolving cultural and social landscape of India.
• Contemporary literature often combines traditional values with modern challenges, offering a unique perspective to readers.

Q84. Answer: (c) Parichakali

The correct answer is Parichakali.

Key Points

• Parichakali is a traditional folk dance performed in the Lakshadweep Islands, an archipelago located off the southwestern coast of India.
• It is also referred to as the "Shield Dance" because the performers traditionally carry shields and swords as part of their attire and choreography.
• The dance is primarily performed by men, showcasing their agility, coordination, and rhythmic movements.
• Parichakali is deeply rooted in the history and culture of Lakshadweep. It is believed to have been influenced by martial arts traditions and the need for physical readiness among the islanders.
• It is performed during festivals and celebrations, especially on occasions that mark community bonding and cultural preservation.

Additional Information

• About Lakshadweep:
• It is a group of 36 small islands, of which 10 are inhabited, and is located in the Arabian Sea.
• Its unique culture, language, and traditions are influenced by Islamic heritage and the maritime history of the region.
• The islanders predominantly speak Malayalam and Jeseri, a local dialect.
• Other Folk Dances of Lakshadweep:
• Lava Dance: A dance performed during festive occasions, showcasing rhythmic movements and group synchronization.
• Kolkali: Another traditional folk dance involving rhythmic clapping and stick movements, symbolizing unity and harmony.
• Explanation of Other Options:
• Ghumura: A traditional folk dance from Odisha, performed with the Ghumura drum. It has no cultural connection with Lakshadweep.
• Gambhira: A folk dance and theatrical form originating from West Bengal, focusing on social and cultural themes.
• Yak Chaam: A ritual dance performed by Buddhist monks in Himalayan regions, including Ladakh and Sikkim.
• Significance of Parichakali:
• The dance reflects the martial spirit of the islanders and their historical need for preparedness against invasions and natural calamities.
• It serves as a medium to preserve the cultural identity and pass down traditional skills to younger generations.

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Q85. Answer: (a) Only I

The correct answer is Only I.

Key Points

• Stars are made up of gases: Stars are primarily composed of hydrogen and helium gases. These gases undergo nuclear fusion in the star's core, which produces energy in the form of light and heat. Hence, Statement I is correct.

• Stars emit their own heat and light: Unlike planets, stars generate their own heat and light through the process of nuclear fusion. This phenomenon occurs when hydrogen atoms fuse to form helium, releasing a significant amount of energy. Hence, Statement II is incorrect.

• Stars are luminous celestial bodies: Due to the energy produced in their cores, stars are visible as bright objects in the night sky. Their luminosity varies depending on their size, temperature, and stage of life.

• Stars are the fundamental building blocks of galaxies: Galaxies are massive systems consisting of billions of stars, along with gas, dust, and dark matter. Stars play a crucial role in the evolution of galaxies.

• Examples of stars: The Sun is the closest star to Earth and a perfect example of a star that emits its own light and heat.

Additional Information

• Nuclear Fusion in Stars:

• Stars produce energy through the process of nuclear fusion, where hydrogen nuclei fuse to form helium. This reaction releases a tremendous amount of energy, which powers the star and emits light and heat.

• The energy produced in the core travels outward to the surface, from where it radiates into space.

• This process is what makes stars self-luminous and distinguishes them from other celestial objects like planets or moons.

• Types of Stars:

• Stars are classified based on their size, temperature, and luminosity. Common types include red dwarfs, white dwarfs, neutron stars, and supergiants.

• For example, the Sun is a G-type main-sequence star, also known as a yellow dwarf.

• Life Cycle of Stars:

• Stars undergo a life cycle that includes stages such as nebula, main sequence, red giant, and supernova, depending on their initial mass.

• Massive stars may end their life as neutron stars or black holes.

• Stars vs. Planets:

• Unlike stars, planets do not produce their own light or heat. Instead, they reflect the light of a nearby star, like the Sun.

• Planets are made up of solids, liquids, and gases, while stars are predominantly made of gases undergoing nuclear fusion.

• Importance of Stars:

• Stars are essential for the formation of elements heavier than helium, which are dispersed into the universe during supernova explosions.

• They provide energy and heat necessary for sustaining life on planets, such as Earth.

Q86. Answer: (b) Only II

The correct answer is Only II.

Key Points

• Friction is a type of contact force, as it arises when two surfaces are in direct contact and resist motion relative to each other. Thus, Statement II is correct.

• Electrostatic force is a type of non-contact force, as it acts between charged particles without requiring any physical contact. Hence, Statement I is incorrect.

• Contact forces are forces that occur when two objects are physically touching. Examples include frictional force, tension force, and normal force.

• Non-contact forces, like electrostatic, gravitational, and magnetic forces, act over a distance without direct physical interaction.

• In this question, only friction qualifies as a contact force, making the correct answer Only II.

Additional Information

• Contact forces:

• Friction: A resistive force that opposes the motion of one surface relative to another. It can be static (prevents motion) or kinetic (opposes ongoing motion).

• Normal force: The support force exerted by a surface perpendicular to an object resting on it, e.g., a book on a table.

• Tension: A pulling force transmitted through a string, rope, or cable when it is pulled tight by forces acting at either end.

• Applied force: A force applied by a person or another object to move an object.

• Air resistance: A type of frictional force that acts against the motion of an object moving through the air.

• Non-contact forces:

• Electrostatic force: The force between charged particles, either attracting or repelling depending on their charges.

• Gravitational force: The attractive force between two masses, such as between the Earth and an object.

• Magnetic force: The attraction or repulsion between magnetic poles or between a magnet and a ferromagnetic material.

• Key distinctions: Contact forces require physical interaction between objects, while non-contact forces operate over a distance without physical touch.

• Applications: Friction is essential in daily life for activities like walking, driving, and holding objects, as it provides the necessary grip and resistance.

Important Points

• Friction can cause wear and tear on surfaces over time, but it is also crucial for enabling controlled motion.

• Electrostatic forces play a significant role in phenomena like lightning and the attraction of dust particles to surfaces.

• Understanding the difference between contact and non-contact forces is fundamental to studying mechanics and physics.

• In engineering, controlling friction is essential for optimizing machine performance and efficiency.

Q87. Answer: (c) p = mv

The correct answer is p = mv.

Key Points

• Momentum is a fundamental concept in physics, defined as the product of an object's mass (m) and its velocity (v). The formula is expressed as p = mv.

• Here, p represents momentum, a vector quantity that has both magnitude and direction.

• Momentum is directly proportional to both the mass and velocity of the object. Thus, if the mass or velocity increases, the momentum also increases.

• The unit of momentum in the International System of Units (SI) is kilogram meter per second (kg·m/s).

• This formula is derived from Newton's Second Law of Motion, which establishes the relationship between force, mass, and acceleration.

• Hence, the formula p = mv is correct, and options 1, 2, and 4 are incorrect.

Additional Information

• Newton's Second Law of Motion:

• This law states that the force acting on an object is equal to the rate of change of its momentum.

• The mathematical representation of Newton's second law is F = dp/dt, where F is the force, p is momentum, and t is time.

• In cases where mass remains constant, the equation simplifies to F = ma, where a is acceleration.

• Characteristics of Momentum:

• Momentum is a vector quantity, meaning it has both magnitude and direction.

• It is conserved in an isolated system, as stated by the law of conservation of momentum.

• Momentum plays a crucial role in understanding collisions, explosions, and other dynamic systems.

• Applications of Momentum:

• In sports, such as football or cricket, momentum determines the force exerted by moving players or balls.

• It is used in engineering, such as in the design of vehicles and safety features like airbags.

• Momentum is essential for analyzing the motion of celestial bodies in astrophysics.

• Key Differences Between Momentum and Force:

• Momentum: A measure of the quantity of motion an object possesses, dependent on mass and velocity.

• Force: A push or pull acting upon an object, which causes a change in momentum or acceleration.

Important Points

• Option 1: p = m/a is incorrect because dividing mass by acceleration does not result in momentum.

• Option 2: p = ma is incorrect as this formula represents force, not momentum.

• Option 4: p = m/v is incorrect because dividing mass by velocity does not yield momentum.

• Option 3: p = mv is correct because momentum is defined as the product of an object's mass and velocity.

Q88. Answer: (c) Nadi Tarangini

The correct answer is Nadi Tarangini.

Key Points

• Nadi Tarangini is India’s first Ayurvedic diagnostic device, developed to digitize and modernize the ancient science of pulse-based diagnosis (Nadi Pariksha).

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• This device was developed in January 2025 to enable accurate and consistent health analysis using Ayurvedic principles combined with modern technology.

• The device uses Artificial Intelligence (AI) and advanced sensors to capture a person's pulse data and analyze it to determine their health condition.

• It is specifically designed to assist Ayurvedic practitioners in diagnosing diseases and suggesting personalized treatment plans.

• By integrating technology with traditional medicine, Nadi Tarangini aims to bring consistency, accuracy, and scalability to Ayurvedic diagnostics.

Additional Information

• Ayurvedic Diagnostic Techniques:

• Nadi Pariksha is a traditional Ayurvedic method of analyzing a person's health condition by reading their pulse.

• It provides information about the three doshas (Vata, Pitta, Kapha) in a person's body, helping in identifying imbalances that might lead to diseases.

• This method is highly dependent on the practitioner's expertise, which Nadi Tarangini addresses by providing digital accuracy.

• Features of Nadi Tarangini:

• Incorporates AI-driven algorithms to analyze pulse data.

• Offers detailed health reports based on Ayurvedic principles, such as dosha imbalances and stress levels.

• Helps in early detection of health issues and provides suggestions for dietary and lifestyle changes.

• Other Options Explained:

• AyurScan: This is a fictional name and does not exist as an Ayurvedic diagnostic device.

• PulsePro: Another fictional term that might refer to pulse monitoring but is not related to Ayurveda.

• Veda Diag: This is not an existing diagnostic tool in Ayurveda.

• Significance of Technology in Ayurveda:

• Modern devices like Nadi Tarangini bridge the gap between ancient traditional knowledge and modern healthcare technology.

• They enhance the global reach of Ayurveda by providing evidence-based diagnostic tools.

• These innovations also ensure standardization and scalability in Ayurvedic practices.

Important Points

• Ayurveda: It is a 5000-year-old traditional system of medicine originating in India, focusing on holistic health and wellness.

• Doshas: The three doshas (Vata, Pitta, Kapha) are biological energies that govern physical and mental processes and their balance is key to good health.

• Technological Integration: Efforts like Nadi Tarangini are part of India's broader initiative to combine traditional medicine with cutting-edge technology to make healthcare more accessible and reliable.

• Government Support: India's Ministry of AYUSH actively supports research and development in traditional medicine systems, encouraging innovations like Nadi Tarangini.

Q89. Answer: (b) KMC, Manipal

The correct answer is KMC, Manipal.

Key Points

• KMC, Manipal has established India's first Department of Artificial Intelligence in Healthcare in August 2025.

• This department aims to revolutionize healthcare by integrating AI-driven technologies into medical diagnosis, patient care, and research methodologies.

• Artificial Intelligence applications in healthcare include advanced diagnostic tools, predictive models for treatment outcomes, and efficient resource allocation in hospitals and clinics.

• KMC, Manipal, located in Karnataka, is recognized as a premier institution in medical education and research, consistently innovating in the field of healthcare.

• The launch of this department reflects a significant step in India's healthcare sector, aiming to bridge the gap between technology and medicine for better patient outcomes and precision medicine.

Additional Information

• Artificial Intelligence in Healthcare:

• AI is used in healthcare to analyze complex medical data, enabling early detection of diseases such as cancer, heart disorders, and diabetes.

• It assists in developing personalized treatment plans based on patient-specific data like genetic profiles and medical history.

• Applications include robot-assisted surgeries, virtual health assistants, and predictive analytics for patient monitoring.

• AI-powered tools like IBM Watson and Google's DeepMind are examples of AI revolutionizing healthcare globally.

• KMC, Manipal:

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• Established in 1953, Kasturba Medical College (KMC) is one of India's leading institutions for medical education and research.

• It is part of the Manipal Academy of Higher Education (MAHE), a deemed university known for academic excellence.

• KMC is ranked among the top medical colleges in India and has contributed significantly to medical advancements.

• The institution emphasizes research and innovation, as evidenced by the establishment of the AI Department in Healthcare.

• Other Medical Colleges Mentioned:

• CMC, Vellore: Established in 1900, it is renowned for its clinical excellence and research contributions.

• JIPMER, Puducherry: Founded in 1956, it is one of the premier medical institutions in India, focusing on patient care, education, and research.

• BITS, Pilani: Primarily known for engineering and technology, it has expanded its focus into healthcare and bioengineering in recent years.

• Global Trends in AI in Healthcare:

• Countries like the USA, UK, and China are leading in integrating AI into their healthcare systems.

• AI technologies, such as machine learning and natural language processing, are widely used for drug discovery, clinical trials, and improving operational efficiency in hospitals.

• India's initiative through KMC, Manipal, is a step towards aligning with global advancements in healthcare technology.

Important Points

• Artificial Intelligence Applications: AI in healthcare includes the use of tools like predictive analytics, image recognition for disease detection, and natural language processing for patient record analysis.

• Challenges: AI adoption in healthcare faces challenges such as data privacy concerns, ethical considerations, and the need for extensive training for medical professionals.

• Future Prospects: With advancements in AI, the future of healthcare is expected to include precision medicine, improved patient outcomes, and efficient hospital management systems.

Q90. Answer: (a) Parliament

The correct answer is Parliament.

Key Points

• The Annual Financial Statement is another name for the Union Budget, and its presentation is a constitutional mandate under Article 112 of the Indian Constitution.

• The Annual Financial Statement must be presented before the Parliament every year to ensure transparency and accountability regarding the financial operations of the government.

• The document provides a detailed account of the government's income (revenue) and expenditure for the upcoming financial year. This includes the estimates for the Consolidated Fund of India, the Contingency Fund, and the Public Account.

• The Parliament plays a critical role in debating, scrutinizing, and approving the budget proposals. The presentation of the budget initiates a legislative process to ensure funds are allocated appropriately.

• It is a key mechanism in a democracy that ensures the executive branch (government) is held accountable to the legislature (Parliament) for its financial activities. Hence, the correct answer is Parliament.

Additional Information

• Article 112:

• This article of the Indian Constitution mandates the presentation of the Annual Financial Statement to the Parliament.

• It is divided into three parts: Consolidated Fund of India, Contingency Fund, and Public Account.

• The statement contains detailed estimates of revenue and expenditure, both current and capital, and is presented every financial year.

• Role of Parliament:

• The Lok Sabha (House of the People) has the primary authority to discuss and approve the budget proposals. The Rajya Sabha (Council of States) can only discuss the budget and offer suggestions.

• The Appropriation Bill and Finance Bill are introduced to seek approval for withdrawal of funds and changes in taxes, respectively.

• Stages of Budget Presentation:

• The budget is presented in two parts: the General Budget and the Railway Budget (merged since 2017).

• It includes discussions, voting on demands for grants, and the passage of financial bills.

• Consolidated Fund of India:

• This is the most important fund, into which all revenues received by the government and loans raised are credited.

• Expenditure from this fund requires Parliamentary approval.

• Contingency Fund:

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• This fund is used to meet unforeseen expenses. It is at the disposal of the President of India and requires subsequent approval from the Parliament.

• Public Account:

• This account is used for transactions like provident funds, small savings, etc., where the government acts as a banker.

Important Points

• Budget Timeline: The Indian financial year runs from April 1 to March 31. The budget is usually presented on February 1 to allow sufficient time for its approval before the new fiscal year begins.

• First Budget of Independent India: It was presented by R. K. Shanmukham Chetty on 26 November 1947.

• Union Budget 2021-22: It was the first-ever paperless budget in India, presented by Nirmala Sitharaman, the Finance Minister.

• Vote-on-Account: In cases where the budget is not passed before the start of the financial year, a Vote-on-Account is used to approve necessary expenditure for a limited period.

• Zero-Based Budgeting: This budgeting technique, introduced in India in the 1980s, requires all expenditures to be justified from scratch, regardless of previous budgets.

Q91. Answer: (d) To increase the government regulation in the private operation significantly.

The correct answer is To increase the government regulation in the private operation significantly..

Key Points

• The Production Linked Incentive (PLI) scheme is designed to promote manufacturing in India by offering incentives to firms based on their production output.

• The primary goals of the PLI scheme include attracting substantial investments, incorporating advanced technology, and improving operational efficiency. These objectives aim to enhance India's manufacturing capabilities and global competitiveness.

• The scheme seeks to reduce import dependency by encouraging domestic production and fostering a self-reliant economy, in line with the Aatmanirbhar Bharat initiative.

• However, the scheme does not aim to significantly increase government regulation in the private sector. Instead, it focuses on providing support and incentives to industries to boost their output and encourage ease of doing business.

• The correct answer is related to the fact that the PLI scheme is designed to empower industries rather than impose excessive regulatory burdens.

Additional Information

• Overview of the PLI Scheme:

• The scheme was launched in 2020 by the Government of India to boost domestic manufacturing and enhance export capabilities.

• It focuses on sectors such as electronics, pharmaceuticals, automobiles, textiles, and more, with incentives linked to incremental production.

• The scheme is expected to generate large-scale employment and make India a global manufacturing hub.

• Objectives of the PLI Scheme:

• Attract substantial investments: The scheme encourages both domestic and foreign investors to set up manufacturing units in India.

• Incorporate advanced technology: It aims to modernize the manufacturing process by adopting cutting-edge technologies.

• Ensure operational efficiency: By improving productivity and reducing inefficiencies, the scheme seeks to make Indian products globally competitive.

• Important Sectors under the Scheme:

• Electronics: The PLI scheme supports local production of mobile phones, semiconductors, and other electronic components.

• Automobiles: Incentives are provided for advanced automotive technology and electric vehicles.

• Pharmaceuticals: The scheme promotes the production of key starting materials (KSMs) and active pharmaceutical ingredients (APIs).

• Textiles: It aims to boost the production of man-made fibers and technical textiles.

• Key Features:

• The incentives are performance-based, with financial benefits provided for achieving incremental output targets.

• It is implemented in a phased manner, with different sectors being added over time.

• The scheme complements other government initiatives like Make in India and Digital India.

Important Points

• Budget Allocation: The total outlay for the PLI scheme across various sectors is approximately Rs. 1.97 lakh crore over a five-year period.

• Success Metrics: The scheme is expected to add $500 billion to India's manufacturing output annually and create millions of jobs.

• Key Beneficiaries: Large multinational corporations and domestic manufacturers with the capability to scale up production are the primary beneficiaries.

• Global Comparison: Similar schemes have been implemented in countries like China, which used production incentives to establish itself as a manufacturing powerhouse.

Q92. Answer: (c) Kunbis

The correct answer is Kunbis.

Key Points

• The Kunbis were a significant community in the Maratha Empire, often regarded as the backbone of the Maratha army.

• They were primarily agriculturalists and formed the majority of the population in regions ruled by the Marathas. Their agricultural livelihood made them physically robust and suitable for military service.

• The Kunbis were deeply loyal to the Maratha rulers, especially to Chhatrapati Shivaji Maharaj, who encouraged their participation in the military.

• This community played a key role in the Maratha infantry, known for their bravery and resilience during battles, particularly in guerilla warfare tactics initiated by Shivaji.

• Their contribution was not limited to warfare; the Kunbis also supported the Maratha administration by contributing resources from their agricultural activities.

Additional Information

• Ur:

• Ur refers to village assemblies or settlements in historical contexts, especially in South India.

• It does not relate directly to the composition of the Maratha army.

• Zamindars:

• Zamindars were landlords or tax collectors during the Mughal and British periods.

• While some Zamindars supported the Marathas, they were not the primary group forming the Maratha army.

• Mansabdars:

• Mansabdars were military officials in the Mughal administrative system, holding ranks called 'Mansabs.'

• This system was distinct from the Maratha administrative and military structure.

• Kunbis:

• The Kunbis were the largest caste group in Maharashtra, known for their agricultural expertise and physical strength.

• They contributed significantly to the Maratha military, particularly in infantry roles.

• Their guerilla tactics and familiarity with local terrain made them an invaluable part of the army.

• Historically, the Kunbis were also involved in socio-economic activities that supported the Maratha state.

Important Points

• Chhatrapati Shivaji Maharaj: He was the founder of the Maratha Empire and introduced effective military strategies like guerilla warfare, where the Kunbis played a crucial role.

• Maratha Infantry: Known for its agility and strength, the infantry was largely composed of Kunbis, who excelled in quick and efficient combat techniques.

• Guerilla Warfare: This tactic relied on surprise attacks and familiarity with terrain, a skill the Kunbis possessed due to their local agricultural background.

• Legacy: The Kunbis remain an integral part of Maharashtra's cultural and historical identity, with their contributions during the Maratha period still celebrated today.

Q93. Answer: (a) 2015

The correct answer is 2015.

Key Points

• The Service Export from India Scheme (SEIS) was launched by the Government of India in 2015 as part of the Foreign Trade Policy (FTP) 2015-2020.

• SEIS was introduced to encourage and boost the export of notified services from India to other countries by providing benefits in the form of duty credit scripts.

• The scheme applies to service providers located in India and rewards them for the export of eligible services as listed in the FTP.

• Under SEIS, the rate of reward varies from 3% to 5% of the net foreign exchange earned, depending on the type of service exported.

• SEIS aims to enhance India's competitiveness in service exports and create a favorable environment for service providers to expand their global footprint.

Additional Information

• Eligible Services under SEIS:

• Some of the eligible services include legal services, accounting services, architectural services, engineering services, advertising services, and market research services.

• Other services such as tourism and hospitality, education services, and healthcare services are also covered under SEIS.

• Implementation and Benefits:

• The scheme is implemented by the Directorate General of Foreign Trade (DGFT) under the Ministry of Commerce and Industry.

• The duty credit scripts earned under SEIS can be used for payment of customs duty on imported goods or can be freely transferred or sold.

• Foreign Trade Policy (FTP) 2015-2020:

• The FTP introduced SEIS along with other schemes like the Merchandise Exports from India Scheme (MEIS) to boost both goods and service exports.

• FTP 2015-2020 aimed to double India's exports of goods and services and raise India's share in world exports to 3.5% by 2020.

• India's Service Sector Contribution:

• India's service sector contributes significantly to the GDP, accounting for over 50% of the GDP in recent years.

• The service sector includes IT, telecom, financial services, and tourism, which are major contributors to India's export revenue.

Important Points

• Other Export Promotion Schemes:

• The Merchandise Exports from India Scheme (MEIS) focuses on incentivizing the export of goods, complementing the SEIS for services.

• Other initiatives include the Export Promotion Capital Goods (EPCG) scheme and Advance Authorization Scheme to facilitate exports by reducing input costs.

• India's Export Growth:

• India has been focusing on diversifying its export base, including services like IT, healthcare, and education.

• Efforts like SEIS have helped India become a global leader in IT services and outsourcing.

Q94. Answer: (b) Article 85

The correct answer is Article 85.

Key Points

• Article 85 of the Indian Constitution deals with the sessions of Parliament, prorogation, and dissolution.

• The President has the authority to summon each House of Parliament at such intervals that there should not be a gap of more than six months between two sessions.

• Under this Article, the President can also prorogue a session or dissolve the Lok Sabha.

• The Constitution ensures that Parliament meets regularly to fulfill its legislative functions and oversight responsibilities effectively.

• This provision is crucial to prevent excessive delays in legislative work and to maintain the functioning of a democratic government.

Additional Information

• Article 74:

• This Article mandates the existence of a Council of Ministers with the Prime Minister at its head to aid and advise the President in exercising his functions.

• It emphasizes the role of the executive in the Indian parliamentary system.

• Article 93:

• This Article pertains to the Speaker and Deputy Speaker of the Lok Sabha.

• It requires that the House of the People elect its Speaker and Deputy Speaker as soon as possible after the first meeting.

• Article 100:

• This Article deals with the voting procedures in Parliament, including the requirement for a quorum.

• A quorum is the minimum number of members required to conduct parliamentary proceedings, which is one-tenth of the total membership of the House.

• Sessions of Parliament:

• India's Parliament typically has three sessions a year: the Budget Session (February to May), the Monsoon Session (July to September), and the Winter Session (November to December).

• The President summons and prorogues parliamentary sessions under Article 85.

Important Points

• Prorogation vs. Dissolution:

• Prorogation refers to the termination of a session of Parliament by the President, without dissolving it.

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• Dissolution, on the other hand, applies only to the Lok Sabha and leads to its reconstitution through general elections.

• Parliamentary Sessions:

• The interval between two sessions cannot exceed six months, ensuring that Parliament meets at least twice a year.

• This provision safeguards the legislative process and oversight mechanisms essential for democratic governance.

• Historical Context:

• Article 85 reflects the influence of the British parliamentary system, where similar provisions exist for summoning and proroguing sessions.

• It is vital for maintaining the balance of power between the executive and legislative branches in India.

Q95. Answer: (c) It is in eastern part of India.

The correct answer is It is in eastern part of India.

Key Points

• Deendayal Port, previously known as Kandla Port, is situated in the Gulf of Kutch in Gujarat, India. It is located on the western coast of India. Hence, statement 1 is correct.

• Deendayal Port is classified as a Major Port under the Major Port Authorities Act, 2021. It is one of the busiest ports in India in terms of cargo handling. Hence, statement 2 is correct.

• The statement claiming Deendayal Port is in the eastern part of India is incorrect. It is located in the western part of the country in Gujarat. Hence, statement 3 is incorrect.

• Deendayal Port is a significant hub for importing and handling large quantities of petroleum products and crude oil. It has specialized facilities for this purpose. Hence, statement 4 is correct.

• The port contributes significantly to India's maritime trade, handling a variety of commodities such as crude oil, petroleum products, fertilizers, and salt.

Additional Information

• Deendayal Port Overview:

• Deendayal Port, formerly known as Kandla Port, was renamed in 2017 in honor of Pandit Deendayal Upadhyay.

• It is located in the Kutch district of Gujarat, near Gandhidham.

• The port is strategically located to handle imports and exports to and from the Middle East, Africa, and Europe.

• Major Port Authorities Act, 2021:

• This act governs the management and operations of major ports in India.

• It replaces the Major Port Trusts Act, 1963, enabling greater autonomy and modernization of port infrastructure.

• Importance of Kandla (Deendayal) Port:

• It is one of the largest oil-handling ports in India.

• The port handles dry cargo, liquid cargo, and containers, with a focus on petroleum products and crude oil.

• It plays a vital role in the import and export of fertilizers, edible oils, and iron and steel products.

• Gulf of Kutch:

• Located on the western coast of India, the Gulf of Kutch is known for its strategic maritime significance.

• The region is home to several ports, including Deendayal Port and Mundra Port.

• It is also famous for its rich biodiversity, including coral reefs and mangroves.

Important Points

• Other Major Ports in India:

• Jawaharlal Nehru Port Trust (JNPT): Located in Maharashtra, it is India's largest container port.

• Chennai Port: Situated on the eastern coast of India, it handles a variety of cargo, including containers, automobiles, and coal.

• Haldia Port: Located in West Bengal, it is part of the Kolkata Port Trust and focuses on bulk cargo.

• Petroleum Import in India:

• India is one of the largest importers of crude oil globally, with major imports coming through ports like Deendayal Port, Mumbai Port, and Chennai Port.

• Deendayal Port has specialized facilities for crude oil storage and handling.

• Economic Contribution of Ports:

• Ports in India contribute significantly to GDP and trade by facilitating imports and exports.

• They are essential for industries like oil refining, fertilizer production, and shipping logistics.

Q96. Answer: (d) Ninth

The correct answer is Ninth.

Key Points

• In India, the public sector had a dominant role in the economy during the earlier Five-Year Plans, focusing on infrastructure, heavy industries, and social welfare.

• By the time of the Ninth Five-Year Plan (1997-2002), there was a shift in focus, emphasizing privatization, liberalization, and market-oriented reforms.

• The Ninth Plan prioritized employment generation, poverty alleviation, and human resource development, reducing the reliance on public sector-led initiatives.

• This period also saw the expansion of private sector participation in various industries, further reducing the pronounced emphasis on the public sector.

• The plan was aligned with the economic reforms initiated in 1991, aiming to accelerate economic growth through liberalization and globalization.

Additional Information

• First Five-Year Plan (1951-56):

• Focused on agriculture and irrigation to address food shortages and boost rural development.

• The public sector played a pivotal role in the economy, with substantial investments in infrastructure and social services.

• Modeled after the Harrod-Domar growth model, it emphasized balanced economic growth.

• Third Five-Year Plan (1961-66):

• Focused on self-reliance and growth in agriculture and industries, with heavy reliance on the public sector.

• Emphasis was laid on defense and industrialization due to external threats like the Sino-Indian War (1962).

• The plan faced challenges due to droughts and wars, impacting its success.

• Fifth Five-Year Plan (1974-79):

• Aimed to reduce poverty and achieve self-sufficiency in food grains.

• The public sector remained dominant, especially in areas like energy, infrastructure, and heavy industries.

• Introduced the Minimum Needs Programme and focused on employment generation.

• Ninth Five-Year Plan (1997-2002):

• The plan marked a shift towards market-driven policies and privatization.

• It emphasized social justice, poverty reduction, and improved infrastructure, with private sector participation.

• This plan aligned with the post-1991 economic reforms, reducing the dominance of the public sector in economic activities.

• Focus areas included employment generation, human resource development, and equity.

Important Points

• Economic Reforms of 1991:

• The Liberalization, Privatization, and Globalization (LPG) reforms were introduced to reduce the public sector's dominance.

• These reforms aimed to boost private sector participation and integrate India into the global economy.

• Key changes included deregulation, disinvestment, and opening up various sectors to private players.

• Impact of Ninth Plan:

• Encouraged private investments in infrastructure, education, and health sectors.

• Focused on employment generation and poverty alleviation through targeted schemes.

• The plan reduced over-reliance on the public sector, promoting efficiency and growth.

• Post-Ninth Plan Developments:

• Subsequent plans continued the trend of public-private partnerships (PPP) in key sectors.

• The emphasis shifted towards inclusive growth, leveraging private sector capabilities and investments.

Q97. Answer: (a) Atal Bihari Vajpayee

The correct answer is Atal Bihari Vajpayee.

Key Points

• The Planning Commission of India, which was established in 1950, was responsible for formulating India’s Five-Year Plans.

• The Tenth Five-Year Plan was implemented for the period 2002–2007.

• During this period, Atal Bihari Vajpayee, the then Prime Minister of India, served as the Chairman of the Planning Commission. As per tradition, the Prime Minister of India has always been the Chairman of the Planning Commission.

• The main objectives of the Tenth Five-Year Plan included achieving a growth rate of 8% GDP, poverty reduction, and improving social and economic equity.

• Under Vajpayee’s leadership, the plan emphasized sectors like education, health, and infrastructure development, aligning with the vision of sustainable and inclusive growth.

Additional Information

• Atal Bihari Vajpayee:

• He served as the Prime Minister of India thrice: first for a brief period in 1996, then from 1998 to 2004.

• He was known for initiating significant reforms in economic policies and infrastructure, including the ambitious Golden Quadrilateral Highway Project.

• A recipient of the Bharat Ratna, Vajpayee was also an acclaimed poet and statesman.

• His governance emphasized economic growth, national security, and social development.

• Planning Commission:

• The Planning Commission was an institution in the Government of India tasked with formulating India's Five-Year Plans and advising on resource allocation for development.

• It was replaced by the NITI Aayog in 2015 to better align with the changing economic and developmental needs of the country.

• The commission was chaired by the Prime Minister, with a Deputy Chairman and other members forming the core team.

• Tenth Five-Year Plan (2002–2007):

• The key goals of this plan included reducing poverty, increasing employment opportunities, and achieving a growth rate of 8% GDP.

• It sought to ensure that the benefits of economic growth reached all sections of society, particularly the disadvantaged.

• Emphasis was placed on education, healthcare, and infrastructure development.

• Other Prime Ministers Mentioned:

• I. K. Gujral: Served as the Prime Minister of India from April 1997 to March 1998. Known for the Gujral Doctrine, which focused on India's relations with its neighboring countries.

• H. D. Deve Gowda: Served as the Prime Minister from June 1996 to April 1997. His tenure was marked by initiatives in the agriculture sector.

• P. V. Narasimha Rao: Served as the Prime Minister from 1991 to 1996. He is credited with introducing economic liberalization policies in India.

Q98. Answer: (a) 2045

The correct answer is 2045.

Key Points

• The National Population Policy (NPP) 2000 was implemented by the Government of India with the goal of achieving a stable population by the year 2045, which is in alignment with the requirements of sustainable economic growth, social development, and environmental protection.

• The policy aims to address the unmet needs for contraception, healthcare infrastructure, and health personnel, and to provide an integrated service delivery for basic reproductive and child healthcare.

• One of the major objectives of the NPP 2000 is to bring the Total Fertility Rate (TFR) to replacement levels (2.1 children per woman) by 2010. This is considered a crucial step towards stabilizing the population by 2045.

• The policy focuses on key measures such as delaying marriage age, promoting the use of contraceptives, and improving maternal and child health services to reduce infant mortality and maternal mortality rates.

• The National Population Policy also emphasizes achieving universal immunization, reducing the incidence of communicable diseases, and ensuring 100% registration of births, deaths, marriages, and pregnancies.

Additional Information

• Key Objectives of National Population Policy (NPP) 2000:

• Reduce infant mortality rate to below 30 per 1,000 live births.

• Reduce maternal mortality rate to below 100 per 100,000 live births.

• Achieve 100% registration of births, deaths, marriages, and pregnancies.

• Provide free and compulsory education up to the age of 14 years and reduce school dropouts at primary and secondary levels to below 20% for both boys and girls.

• Promote delayed marriage for girls, not earlier than 18 years, and preferably after 20 years of age.

• Key Challenges Addressed by NPP 2000:

• High rates of infant and maternal mortality.

• Unmet needs for contraception and family planning.

• High levels of illiteracy, especially among women.

• Inadequate access to healthcare services in rural and remote areas.

• Related Programs and Initiatives:

• Janani Suraksha Yojana (JSY): Aims to reduce maternal and infant mortality by promoting institutional deliveries among poor

pregnant women.

• Mission Indradhanush: Focuses on achieving full immunization coverage for children up to two years of age and pregnant women.

• Reproductive and Child Health Program: Strengthens maternal and child healthcare services under the National Health Mission (NHM).

• Important Statistical Goals:

• Replacement-level fertility (TFR of 2.1) by 2010.

• Population stabilization to a sustainable level by 2045.

Important Points

• The National Population Policy 2000 is crucial for achieving socio-economic development goals and maintaining a balanced demographic profile.

• It is aligned with global commitments such as the Millennium Development Goals (MDGs) and later the Sustainable Development Goals (SDGs).

• Population stabilization is essential for reducing the stress on natural resources and improving the quality of life for all citizens.

Q99. Answer: (a) To accommodate high blood pressure

The correct answer is To accommodate high blood pressure.

Key Points

• Arteries have thick, elastic walls to withstand and accommodate the high pressure of blood pumped by the heart. Blood exits the heart at a high velocity, and the walls of arteries must be resilient to handle this force.

• The elasticity of arterial walls allows them to expand and recoil with each heartbeat, ensuring a smooth and continuous blood flow rather than a pulsating flow. This property is essential for maintaining consistent blood circulation throughout the body.

• The thick muscular layer of arteries, composed of smooth muscle and elastic tissue, enables them to maintain their shape and prevent rupture under high-pressure conditions.

• Arteries transport oxygenated blood (except for the pulmonary arteries) to various parts of the body. The thick walls ensure that the blood reaches distant organs without losing pressure.

• Hence, the thick, elastic walls of arteries are primarily designed to accommodate high blood pressure, ensuring the effective distribution of blood throughout the body.

Additional Information

• Structure of arteries:

• Arteries have three layers: 1. Tunica intima (inner layer): This is a thin layer of endothelial cells that provides a smooth surface for blood flow. 2. Tunica media (middle layer): Composed of smooth muscle and elastic fibers, this layer is responsible for the elasticity and strength of the artery. 3. Tunica externa (outer layer): Made of connective tissue, this layer provides structural support and anchors the artery to surrounding tissues.

• Comparison with veins: Unlike arteries, veins have thinner walls and larger lumens as they carry blood under low pressure. Veins also have valves to prevent backflow of blood.

• Blood pressure in arteries: The normal blood pressure in arteries is around 120/80 mmHg (systolic/diastolic pressure). Arteries must be strong enough to handle this pressure without damage.

• Functions of elasticity: The elastic nature of arteries helps in:

• Absorbing the shock of blood ejection from the heart during systole (heart contraction).

• Facilitating smooth blood flow during diastole (heart relaxation).

• Diseases related to arterial walls: Conditions like atherosclerosis (hardening of arteries) can reduce the elasticity of arterial walls, leading to high blood pressure and increased risk of cardiovascular events.

Important Points

• Option 2: To prevent blood clotting – This is incorrect. Blood clotting is regulated by platelets and clotting factors in the blood, not the walls of arteries.

• Option 3: To facilitate nutrient exchange – This is incorrect. Nutrient exchange occurs in capillaries, which have thin walls, not in arteries.

• Option 4: To store oxygen – This is incorrect. Oxygen is transported by hemoglobin in red blood cells, not stored in arterial walls.

• The primary role of arteries is to transport oxygenated blood efficiently at high pressure, which is facilitated by their thick and elastic walls.

Q100. Answer: (d) Kundalavana

The correct answer is Kundalavana.

Key Points

• Kanishka, the famous ruler of the Kushan Dynasty, convened the Fourth Buddhist Council in Kundalavana, located in the

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Kashmir region.

• This council was held in the 1st century CE during Kanishka's reign, around 78 AD, and was primarily aimed at reorganizing and preserving Buddhist teachings.

• The council was presided over by notable scholars like Vasumitra (as the chairman) and Ashvaghosha (as the deputy chairman).

• It was during this council that Buddhism was formally divided into two major sects: Theravada (Hinayana) and Mahayana.

• The teachings of this council were inscribed on copper plates and stored in a stupa in the region of Kashmir.

• Kundalavana is significant as it marked the evolution of Mahayana Buddhism, which emphasized the role of the Bodhisattva and the concept of universal salvation.

Additional Information

• Kanishka's Contribution to Buddhism:

• Kanishka was a great patron of Buddhism and played a pivotal role in spreading the religion beyond India to regions such as China and Central Asia.

• He is remembered for constructing the Kanishka Stupa, which was one of the tallest stupas of its time and a major center for Buddhist learning.

• About the Fourth Buddhist Council:

• The primary aim of the council was to compile, categorize, and preserve the Buddhist teachings (Tripitakas).

• It also marked the consolidation of the Mahayana sect, which introduced new doctrines and philosophies into Buddhism.

• Notable Personalities:

• Vasumitra: He was the chairman of the council and was instrumental in systematizing Buddhist doctrines.

• Ashvaghosha: A renowned Buddhist philosopher, poet, and dramatist who contributed significantly to the development of Mahayana Buddhism.

• Division of Buddhism:

• The council formalized the division of Buddhism into Hinayana (Theravada) and Mahayana, with Mahayana focusing on the Bodhisattva ideal.

• Locations of Other Buddhist Councils:

• First Council: Held at Rajgir (Rajagriha) under the patronage of King Ajatashatru after Buddha's death.

• Second Council: Held at Vaishali, around 100 years after the First Council, to address disputes over monastic practices.

• Third Council: Held at Pataliputra during the reign of Emperor Ashoka to resolve doctrinal disputes and promote the spread of Buddhism.

Important Points

• Theravada (Hinayana): Focuses on the original teachings of Buddha, emphasizing personal enlightenment through self-discipline and meditation.

• Mahayana: Emphasizes universal salvation, the Bodhisattva ideal, and the compassionate aspect of Buddhism.

• Spread of Buddhism: Kanishka's reign saw the expansion of Buddhism to regions like China, Korea, Japan, and Central Asia through the Silk Route.

• Artifacts: Several inscriptions and stupas from Kanishka’s time provide evidence of the council and the flourishing of Buddhism during his reign.

• Legacy: The Fourth Buddhist Council is considered a landmark event in the history of Buddhism, shaping its philosophy and practices for centuries to come.

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