SSC CHSL 2025 Tier-1 (Held On: 20 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 Spot the error in the given sentence.

"Despite of being intelligent, he failed to qualify the exam."

(a) Despite of
(b) being intelligent
(c) he failed
(d) to qualify the exam

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

The judge ruled ____ favor of the plaintiff after reviewing all the evidence.

(a) in
(b) at
(c) for
(d) into

Q3. Fill in the blank with the most appropriate phrasal verb:

The spokesperson tried to _____ the media frenzy by issuing a calm, factual statement.

(a) tone down
(b) carry out
(c) take off
(d) crack down

Q4. Select the most appropriate synonym of the word: DISPARATE

(a) Similar
(b) Identical
(c) Different
(d) Uniform

Q5. Select the most appropriate synonym of the word: RETICENT

(a) Talkative
(b) Reserved
(c) Loud
(d) Open

Q6. Fill in the blank with the most appropriate idiomatic expression:

During the debate, he was clearly uncomfortable and kept trying to _____

(a) bite the bullet
(b) face the music
(c) beat around the bush
(d) let the cat out of the bag

Q7. Select the most appropriate antonym of the word: Candid

(a) Sincere
(b) Honest
(c) Evasive
(d) Frank

Q8. Choose the most suitable option to replace the highlighted part of the sentence:
Which student scored the first highest marks in the class?

(a) the first highest
(b) the highest first
(c) the highest marks
(d) the first marks

Q9. Choose the correct one-word substitute for:
A person who lives in a foreign country

(a) Expatriate
(b) Immigrant
(c) Refugee
(d) Tourist

Q10. Choose the correct indirect narration of the following statement from the given alternatives:
King Midas said, "Daughter, take your breakfast and bring a few roses from the garden."

(a) King Midas asked his daughter to take his breakfast and bring a few roses from the garden.
(b) King Midas asked his daughter to take her breakfast and take a few roses from the garden.
(c) King Midas asked his daughter to take her breakfast and bring a few roses from the garden.
(d) King Midas asked his daughter to take her breakfast and brought a few roses from the garden.

Q11. Select the most appropriate antonym of the word: Celerity

(a) Slowness
(b) Speed
(c) Rapid
(d) Quick

Q12. Which sentence contains a misspelled word?

(a) The weather was awful all weekend.
(b) She had an awfull headache that wouldn't go away.
(c) That movie was just awful, I don't recommend it.
(d) He felt awful about what happened.

Q13. Fill in the blank with the correctly spelled word:
"The student received a _____ for her excellent research paper."

(a) sitation
(b) citasion
(c) citattion
(d) citation

Q14. Change the following sentence into the Active form.
Has the groundbreaking research been funded by a private consortium for the past two years?

(a) Has a private consortium funded the groundbreaking research for the past two years?
(b) The private consortium has funded the groundbreaking research for the past two years?
(c) Did a private consortium fund the groundbreaking research for the past two years?
(d) A private consortium has been funding the groundbreaking research for the past two years?

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Q15. Choose the correct passive voice transformation of the sentence:

He will not tell a lie.

(a) A lie is not told by him.
(b) A lie will not be told by him.
(c) A lie was not told by him.
(d) A lie will not have been told by him.

Q16. Select the option that expresses the given sentence in direct voice.

The student said that the teacher had explained the lesson clearly.

(a) The student said, "The teacher explained the lesson clearly."
(b) The student said, "The teacher has explained the lesson clearly."
(c) The student said, "The teacher had explained the lesson clearly."
(d) The student said, "The teacher explains the lesson clearly, "

Q17. Choose the correct passive voice transformation of the sentence:

The CEO is expected to have brought about significant changes in the department by the end of the year.

(a) Significant changes are expected to have been brought about in the department by the new CEO by the end of the year.
(b) It is expected that significant changes will have been brought about in the department by the new CEO by the end of the year.
(c) Significant changes will have been brought about in the department by the new CEO by the end of the year.
(d) The new CEO is expected that significant changes will be brought about by them.

Directions

Read the passage and answer the following question:

The deep ocean remains one of the least explored parts of our planet, hiding countless unique species that continue to surprise scientists. Unlike creatures living near the surface, many deep-sea animals have developed unusual features to survive in complete darkness, kness, extreme pressure, and freezing temperatures. One such example is the anglerfish, which uses a bioluminescent lure to attract its prey in the pitch-black depths. Another fascinating species is the giant squid, rarely seen by humans but known to grow to impressive lengths. Some deep-sea creatures, like certain jellyfish, glow in the dark through a chemical reaction in. These species play a crucial role in maintaining the ocean's delicate ecosystem. However, human activities like deep-sea mining and pollution threaten their existence. Scientists stress the importance of protecting these hidden worlds, as they could hold secrets that help us understand life on Earth and even develop new medicines. (count words)

Q18. In the sentence: "The deep ocean remains one of the least explored parts of our planet," what is the tense of the verb "remains"?

(a) Past perfect
(b) Present simple
(c) Present continuous
(d) Future simple

Q19. In the sentence: "Some deep-sea creatures, like certain jellyfish, glow in the dark through a chemical reaction in their bodies," is the sentence in active or passive voice?

(a) Active voice - “ the subject performs the action
(b) Passive voice - the action is done to the subject
(c) Passive voice - the agent is unknown
(d) Active voice - no verb is used

Q20. The word "bioluminescent" means:

(a) Made of plastic
(b) Giving off light naturally
(c) Moving very slowly
(d) Causing pollution

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Q21. The word "ecosystem" means:

(a) A group of buildings
(b) A new invention
(c) A network of living and non-living things in an environment
(d) A type of fishing net

Q22. What is the main idea of the passage?

(a) Deep-sea species are harmful to humans
(b) Deep-sea species are interesting but under threat and need protection
(c) The ocean is easy to explore fully
(d) Deep-sea mining helps these species

Q23. Which of the following pairs of homonyms can be used to fill in the blanks most suitably?
She quickly climbed onto her upper _____ to give a wide _____ to the unruly family creating a scene below.

(a) birth, berth
(b) birth, birth
(c) berth, birth
(d) berth, berth

Q24. Which of the following pairs of homonyms can be used to fill in the blanks most suitably?
He had to _____ his brains trying to remember how he came to be on the shore strewn with _____ and driftwood.

(a) wrack, rack
(b) rack, rack
(c) rack, wrack
(d) wrack, wrack

Q25. Which of the following words refers to a strong and deep hatred of something?

(a) Envy
(b) Antipathy
(c) Empathy
(d) Sympathy

GENERAL INTELLIGENCE

Q26. Anita's daughter's son's sister's mother's husband is Vikram. How is Vikram related to Anita?

(a) Son-in-law
(b) Husband
(c) Brother
(d) Father

Q27. In a family, A is the son of P. Q is the brother of A. D is the mother of Q. R is the father of D. How is P related to R?

(a) Daughter-in-law
(b) Daughter
(c) Son-in-law
(d) Son

Q28. A company's profit in the first quarter was Rs. 1,20,000. In the second quarter, the profit decreased by 15%. What was the profit in the second quarter?

(a) Rs. 1,02,000
(b) Rs. 1,05,000
(c) Rs. 1,08,000
(d) Rs. 1,10,000

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Q29. The ratio of boys to girls in a class is 3:2. If there are 18 boys, what is the total number of students in the class?

(a) 24
(b) 30
(c) 36
(d) 40

Q30. A can complete a work in 10 days, and B can complete the same work in 15 days. If they work together, how many days will they take to complete the work?

(a) 5 days
(b) 6 days
(c) 8 days
(d) 12 days

Q31. Few of the letters are given followed by a question mark (?) these letters are following a specific pattern you have to give the correct option which can replace question mark.

What letter comes next: B, F, J, N, ?

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

Q32. In this type of questions, question is provided with some issues/disputes/problem, followed by few methods to resolve the problem in statement choosing the appropriate problem solving method that can be implemented.

A city has traffic jams due to poorly timed signals. Immediate practical step?

(a) Charge tolls for entering congested areas
(b) Ban vehicles during daytime
(c) Build new roads immediately
(d) Synchronize signals based on peak patterns

Q33. Instructions: For each given equation, identify the correct interchange (of signs or numbers) from the options that makes the equation true.

5 + 3 x 2 - 11 = 12

(a) Interchange 3 and 2
(b) Interchange 5 and 11
(c) Interchange + and -
(d) Interchange Ã— and +

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

5:25:125 :: 6:36:216 :: ?

(a) 3:9:30
(b) 4:16:48
(c) 9:81:648
(d) 11:121:1331

Q35. Find out the missing number in the following sequence.

41, 43, 47, 53, 59, ?, 67

(a) 60
(b) 61
(c) 62
(d) 63

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Q36. Directions: Select the related letter from the given alternatives

JODA: KQEC:: GIUS: ?

(a) HKVU
(b) HLXT
(c) IJVT
(d) IKWU

Q37. Directions: Select the related letter from the given alternatives

ENGLISH: HENGLIS :: BENGALI: ?

(a) KENGAL
(b) BENGAL
(c) IBENGAL
(d) FBENGAL

Q38. In the question below there are three statements followed by two conclusions I and II. You have to take the three given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the three statements disregarding commonly known facts.

Statements:

• All Hilux are Truck.
• Some Truck are Flat.
• Only Flat are Fit.

Conclusions:

• I. Some Hilux are not Fit.
• II. All Flat can never be Truck.

(a) Only conclusion I follows
(b) Only conclusion II follows
(c) Both conclusions I and II follow
(d) Neither conclusion I nor II follows

Q39. Instructions: Carefully examine the Reference Statement. Then, identify the single option among the four alternatives (a, b, c, d) that is an EXACT AND COMPLETE REPLICATION of the Reference Statement. Pay exceptionally close attention to every character, number, symbol, space, and punctuation mark.

Reference: Geneva, Switzerland: October 24th, 1945 (UN Day).

(a) Geneva, Switzerland: October 24th, 1945 (UN Day).
(b) Geneva, Switzerland: October 24th, 1945 (U.N. Day).
(c) Geneva, Switzerlan.d: October 24th, 1945 (UN Day).
(d) Geneva, Switzerland: Octobr 24th, 1945 (UN Day).

Q40. Select the letter cluster from among the given options that can replace the question mark (?) in the following series.

ZSG, EVL, JYQ, ___, TEA

(a) OBV
(b) NCV
(c) OCU
(d) NBV

Q41. 5 persons A, B, C, D and E are sitting around a circular table facing towards the centre (not necessarily in the same order). B is sitting second to the right of D. A is sitting second to the right of B. C is not an immediate neighbour of A. Who is sitting third to the right of C?

(a) B
(b) A
(c) D
(d) E

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Q42. W started walking straight from her office to go her home. During her journey she turned 7 times right and 6 times left. She is finally walking towards north to reach her home. In which direction she started walking?

(a) South
(b) North
(c) West
(d) East

Q43. M starts cycling 64 meters straight from her office. During her journey she took 16 right turns. Finally she is facing towards west direction. In which direction she started cycling? (she took no left turn)

(a) South
(b) West
(c) North
(d) East

Q44. R walks 32 meters in east direction. He turns left and walks 8 meters. He turns right and walks 26 meters. He finally turns right and walks 8 meters. How far (in meters) and in which direction is he now from the starting point?

(a) 58, east
(b) 62, east
(c) 58, west
(d) 62, west

Q45. Select the option that is related to the second number in the same way as the third number is related to the fourth number and fifth number is related to sixth number.

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

?: 4925 :: 33:203 :: 45:275

(a) 820
(b) 827
(c) 822
(d) 812

Q46. If 'A' means '+', 'B' means '-', 'C' means '÷' and 'D' means 'x', then which of the following equation is correct?

I. 45 A 13 B 38 C 19 D 6 = 46

II. 13 A 47 B 36 C 4 D 5 = 15

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

Q47. In a certain code language, 'DESK' is coded as '451911', 'TEST' is coded as '2051920'. How will 'COVER' be coded in that code language?

(a) 15322518
(b) 22153518
(c) 31522518
(d) 31522185

Q48. In a certain coded language 'SHARKS' is coded as 'OGNWDO' and 'BALLER' is coded as 'NAHHWX'. How will 'BESTIR' be coded in the same code language?

(a) LEPOYZ
(b) PGQQYY
(c) OEQPAV
(d) NEPOAX

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Q49. In a certain coded language 'ANNUAL' is coded as 'WVQHIF' and 'EVOLVE' is coded as 'AQHIQY'. How will 'AFFECT' be coded in the same code language?

(a) UXCZCM
(b) UYZZZP
(c) VZZXBO
(d) WXAZAN

Q50. From the given alternatives, select the word that CANNOT be formed by using the letters of the given word.
HOSPITALITY

(a) HASTY
(b) POSIT
(c) HOST
(d) HOTEL

QUANTITATIVE APTITUDE

Q51. Find the value of (√7 + √5)(√7-√5)

(a) √2
(b) 2
(c) 24
(d) 2√2

Q52. If p=1+√3, q = 1-√3, Find the value of (p^2 + q^2)

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

Q53. A and B started a business with Rs. 12000 and Rs. 18000. B left after 4 months. Find their profit ratio after 1 year.

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

Q54. The ratio of the ages of A and B is 4:5. After 6 years, the ratio becomes 5:6. What is A's present age?

(a) 36
(b) 30
(c) 24
(d) 40

Q55. The average of 3, 5, 7 is increased by 2. What is the new average?

(a) 9
(b) 7
(c) 5
(d) 6

Q56. A price drops from Rs. 200 to Rs. 150. What is the percentage decrease?

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

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Q57. A's income is 40% less than B's. By what percent is B's income more than A's?

(a) 66.67%
(b) 60%
(c) 50%
(d) 40%

Q58. A man bought a watch for Rs. 1500 and sold it at a loss of 8%. What is the selling price?

(a) Rs. 1380
(b) Rs. 1400
(c) Rs. 1420
(d) Rs. 1440

Q59. A person sells two products for Rs. 500 each. He makes a 20% profit on one and incurs a 20% loss on the other. What is his net gain or loss on the whole transaction?

(a) 4% gain
(b) 4% loss
(c) No profit no loss
(d) 2% gain

Q60. An article marked at Rs. 1600 is sold for Rs. 1360. Find the discount percentage.

(a) 12%
(b) 14%
(c) 15%
(d) 17%

Q61. 40 liters of a mixture contains acid and water in the ratio 7:3. How much acid must be added to make the ratio 4:1?

(a) 12 L
(b) 14 L
(c) 16 L
(d) 20 L

Q62. Find the ratio of volumes of a sphere to its hemisphere of same radius.

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

Q63. A regular octagon is paved inside a circular traffic junction. What is the sum of all internal angles?

(a) 1320°
(b) 1260°
(c) 1080°
(d) 1440°

Q64. In a biochip, DNA sensors are arranged in a regular pentagon. Find the measure of each interior angle.

(a) 110°
(b) 100°
(c) 120°
(d) 108°

Q65. A solid metal cone of height 24 cm and base radius 3.5 cm is melted and recast into small spherical balls of radius 1 cm. How many balls are formed?

(a) 72
(b) 73
(c) 75
(d) 80

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Q66. A can manufacturer wants to paste a label around a cylindrical can of radius 5 cm and height 12 cm. What is the area of the label if it covers the lateral surface only?

(a) 60 π cm²
(b) 75 π cm²
(c) 120 π cm²
(d) 100 π cm²

Q67. A sheet metal roof in the shape of a right triangular prism needs painting on its top and lateral surfaces only. Base triangle has sides 6, 8, 10 cm and prism length is 12 cm. Find the painted area.

(a) 360 cm²
(b) 288 cm²
(c) 312 cm²
(d) 336 cm²

Q68. A spherical tank at a water purification plant holds 36π cubic meters of treated water. What is the radius of the tank?

(a) 3 m
(b) 6 m
(c) 4 m
(d) 2.9 m

Q69. A player's average score across several rounds is 12.25252525... where '25' repeats. What is this recurring decimal as a simplified fraction?

(a) 1211/99
(b) 1213/99
(c) 1210/99
(d) 485/40

Q70. In a roof truss design, two beams are placed such that one makes an angle θ with the horizontal and the other makes (90° - θ). If sin θ = 0.6, what is the value of $\sin^2 \theta + \cos^2(90° - \theta)$?

(a) 0.6
(b) 0.72
(c) 1
(d) 0.36

Q71. The number of perfect square numbers between 50 and 1000 is ?

(a) 21
(b) 22
(c) 23
(d) 24

Q72. A man invests Rs. 5,000 in a savings account that pays a simple interest rate of 6% per annum. What will be the total amount in his account after 3 years?

(a) Rs. 5,500
(b) Rs. 5,400
(c) Rs. 6,000
(d) Rs. 5,900

Q73. What is the simplified value of the expression (785 × 785 × 785 + 215 × 215 × 215)/(785 × 785 - 785 × 215 + 215 × 215) ?

(a) 570
(b) 1
(c) 1000
(d) 1,000,000

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Q74. Calculate the sum of the series: 1+2+3+...+40+41+40+...+3+2+1.

(a) 1531
(b) 1621
(c) 1618
(d) 1681

Q75. Simplify:

(1 + cos (x))/(sin (x))

(a) cosec(x) + tan(x)
(b) cosec(x) + cot(x)
(c) cot(x)
(d) 1

GENERAL AWARENESS

Q76. In March 2024, who among the following was elected as the Paralympic Committee of India (PCI) President?

(a) Devendra Jhajharia
(b) Anil Kumar Prakash
(c) Sundar Singh Gurjar
(d) Mariyappan Thangavelu

Q77. In November 2024, Hemant Soren took oath as Chief Minister of which state?

(a) Chhattisgarh
(b) Jharkhand
(c) Telangana
(d) Rajasthan

Q78. In June 2025, who took over as the 18th Commander-in-Chief of the Andaman and Nicobar Command?

(a) Lt Gen Ajai Singh
(b) Lt Gen Dinesh Singh Rana
(c) Lt Gen Anil Chauhan
(d) Admiral R. Hari Kumar

Q79. Swachhata Hi Seva (SHS) campaign September 2024 was observed from 17th September to 2nd October received participation from over ____ crore people.

(a) 30
(b) 50
(c) 100
(d) 5

Q80. The Union Budget 2025-26 announced to set up a Centre of Excellence in Artificial Intelligence for education with a total outlay of Rs ____ crores.

(a) 200
(b) 100
(c) 300
(d) 500

Q81. Prime Minister Dhan-Dhaanya Krishi Yojana approved in July 2025 aims to benefit how many (in crores) farmers initially?

(a) 1.7
(b) 2.5
(c) 1.2
(d) 2.0

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Q82. Namo Drone Didi is a central sector scheme aiming to empower _____.

(a) women-led Self-Help Groups
(b) men-led Self-Help Groups
(c) corporate-led Self-Help Groups
(d) foreign companies' -led Self-Help Groups

Q83. By how much the Reserve Bank of India's Financial Inclusion Index has improved from FY 2024 to FY 2025?

(a) 2.8%
(b) 3.8%
(c) 2.5%
(d) 4.2%

Q84. District Hospital Index published by NITI Aayog is based on how many Key Performance Indicators?

(a) 4
(b) 5
(c) 7
(d) 10

Q85. In March 2025, the 7th meeting of the National Board for Wildlife held at _____.

(a) Manas National Park
(b) Gir National Park
(c) Kanha National Park
(d) Silent Valley National Park

Q86. Who is the author of the book 'The Shadow Lines'?

(a) Hari Kunzru
(b) Amitav Ghosh
(c) Pankaj Mishra
(d) Vikram Chandra

Q87. Which Hindi novel by Munshi Premchand depicts the life of Indian peasants?

(a) Godan
(b) Kurukshetra
(c) Gunjan
(d) Urvashi

Q88. Jagannath Temple constructed by a famous king of Ganga Dynasty Ananta Varman Chodaganga Deva dating back to 12th century is located at _____.

(a) Odisha
(b) Madhya Pradesh
(c) Tamil Nadu
(d) Karnataka

Q89. 'Nagaur Fair' is held in which of the following state?

(a) Rajasthan
(b) Uttar Pradesh
(c) Punjab
(d) Bihar

Q90. Where is the Hawa Mahal (having 953 windows) located?

(a) Jaipur
(b) Ajmer
(c) Alwar
(d) Sikar

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Q91. In West Bengal, the festival of Durga Puja starts with which of the following events?

(a) Mahalaya
(b) Navami
(c) Dashami
(d) Poila Baishakh

Q92. 'Pandava' dance, performed during Dussehra and Diwali, belongs to which Indian state?

(a) Assam
(b) Maharashtra
(c) Uttarakhand
(d) Karnataka

Q93. Which of the following Indian state practices the folk dance form 'Monyoasho'?

(a) Goa
(b) Telangana
(c) Nagaland
(d) West Bengal

Q94. Why is hydrogen used as fuel in a cryogenic engine?

(a) Because it is easy to store at room temperature.
(b) Because it is non-flammable.
(c) Because it has the highest energy output per kilogram.
(d) Because it is very cheap in comparison to other fuels.

Q95. Which of the following statement is correct regarding Chandrayaan-1 mission?

I. It was the first lunar mission of India.
II. It confirmed the presence of water on the Moon.

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

Q96. Which of the following statement is correct regarding fluid friction?

I. It is also called a drag.
II. It depends on the speed of the object with respect to the fluid.

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

Q97. Which institute received Rs. 4.2 crore funding in 2025 to develop next-gen digital forensic tools?

(a) IIT Bombay and IIT Guwahati
(b) IISc Bangalore and IIT Madras
(c) Delhi University and IIT Delhi
(d) IIIT Pune and NIT Raipur

Q98. The extraction of oil from groundnut is an example of economic activity of which sector of economy?

(a) Primary
(b) Secondary
(c) Quaternary
(d) Quinary

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Q99. In the context of National Highways and Development Projects, what is the total length (in km) of East-West Corridor?

(a) 2900
(b) 3640
(c) 4700
(d) 5860

Q100. Why does the human heart has different chambers?

(a) To regulate body temperature
(b) To pump blood to different organs
(c) To prevent the mixing of oxygen-rich blood with carbon dioxide-rich blood
(d) To store blood

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) Despite of

The correct answer is '1' i.e. Despite of.

Key Points

• The error lies in the phrase "Despite of."

• The word "Despite" is already a preposition and does not require the word "of" after it.

• Correct usage: "Despite being intelligent..."

Correct sentence: Despite being intelligent, he failed to qualify the exam.

Additional Information

• Common Error: Many learners mistakenly use "Despite of," thinking it is the correct phrase. However, "Despite" should always stand alone as a preposition.

• Correct Alternatives: You can use "Although" or "In spite of" instead:

• Example: Although he was intelligent, he failed to qualify the exam.

• Example: In spite of being intelligent, he failed to qualify the exam.

Q2. Answer: (a) in

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

Key Points

• The given sentence is about the judge's ruling in favor of the plaintiff, so the correct preposition to use is "in."

• The phrase "in favor of" is a fixed expression commonly used to indicate support or a decision made for someone or something.

• Other prepositions such as "at," "for," and "into" do not fit the context of this sentence and would render it grammatically incorrect.

Correct sentence: The judge ruled in favor of the plaintiff after reviewing all the evidence.

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Additional Information

• Common usage of "in favor of":

• Example: The committee voted in favor of the new policy.

• Meaning: Indicates agreement or support for something.

• Incorrect usage of other prepositions:

• "at favor of" or "into favor of" are not valid expressions.

• "for favor of" might seem logical but is not grammatically correct in standard English.

Q3. Answer: (a) tone down

The correct answer is '1' i.e. tone down.

Key Points

• The phrasal verb "tone down" means to make something less intense, severe, or loud. It is the most appropriate choice here as the spokesperson aimed to reduce the intensity of the media frenzy.

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

• Carry out: Means to execute or perform a task, which does not fit here.

• Take off: Means to remove or to depart, which is irrelevant in this context.

• Crack down: Means to enforce rules or take strict action, which does not align with the idea of calming the situation.

Correct sentence: The spokesperson tried to tone down the media frenzy by issuing a calm, factual statement.

Additional Information

• Other phrasal verbs with "tone":

• Tone up: To improve the firmness or strength of something, often used for physical fitness.

• Tone in: To adjust or align something to match a specific condition or context (less common).

Q4. Answer: (c) Different

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

Key Points

• The word 'Disparate' means fundamentally distinct or different in kind or quality.

• Among the options provided, 'Different' is the most appropriate synonym.

• Other options like 'Similar', 'Identical', and 'Uniform' are antonyms of the word.

Correct sentence: The word 'Disparate' refers to things that are markedly different from each other.

Additional Information

• Synonyms for 'Disparate': Distinct, Dissimilar, Contrasting.

• Usage Example: The two cultures were disparate in their traditions and practices.

Q5. Answer: (b) Reserved

The correct answer is '2' i.e. Reserved.

Key Points

• The word Reticent refers to someone who is not willing to share their thoughts or feelings easily and prefers to be reserved or silent.

• The synonym of reticent is reserved, which means being quiet, restrained, or not openly expressive.

• Other options like Talkative, Loud, and Open are antonyms of the word Reticent, as they describe someone expressive and outgoing.

Correct sentence: The synonym of the word "Reticent" is Reserved.

Additional Information

• Synonyms: Synonyms are words that have similar meanings to another word. For example, Silent and Reserved are synonyms for Reticent.

• Antonyms: Antonyms are words with opposite meanings. In this case, Talkative, Loud, and Open are antonyms of Reticent.

Q6. Answer: (c) beat around the bush

The correct answer is '3' i.e. beat around the bush.

Key Points

• The idiomatic expression "beat around the bush" is used when someone avoids coming to the point or avoids directly addressing an issue.

• In the sentence, "During the debate, he was clearly uncomfortable and kept trying to _____," the blank implies that the person

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was trying to avoid directly addressing the topic, hence "beat around the bush" fits perfectly.
• Other options do not fit the context:
• "Bite the bullet": Means to face a difficult or unpleasant situation bravely, which is not applicable here.
• "Face the music": Means to accept the consequences of one's actions, which does not fit the context.
• "Let the cat out of the bag": Means to reveal a secret, which is irrelevant here.
Correct sentence: During the debate, he was clearly uncomfortable and kept trying to beat around the bush.

Q7. Answer: (c) Evasive

The correct answer is '3' i.e. Evasive.
Key Points
• The word Candid means open, honest, or straightforward in speech or expression.
• An antonym is a word that conveys the opposite meaning.
• Evasive, which means avoiding or being indirect, is the most appropriate antonym for Candid.
Correct sentence: The most appropriate antonym of "Candid" is Evasive.
Additional Information
• Other options explained:
• Sincere: Means genuine or truthful, which is similar in meaning to Candid and not an antonym.
• Honest: Also means truthful or straightforward, similar to Candid.
• Frank: Another synonym of Candid, meaning open or direct.

Q8. Answer: (c) the highest marks

The correct answer is '3' i.e. 'the highest marks'.
Key Points
• The highlighted phrase "the first highest marks" is grammatically incorrect and redundant.
• The word "highest" itself conveys the superlative degree, making the use of "first" unnecessary.
• The correct and concise phrase is "the highest marks."
Correct sentence: Which student scored the highest marks in the class?.
Additional Information
• In English grammar, superlative adjectives like "highest" indicate the greatest degree without needing further qualifiers like "first."
• Using redundant modifiers can make sentences awkward and unclear.

Q9. Answer: (a) Expatriate

The correct answer is '1' i.e. Expatriate.
Key Points
• The term Expatriate refers to a person who resides in a foreign country.
• Immigrant implies someone who moves to another country to settle permanently.
• Refugee refers to someone fleeing their country due to war, persecution, or disaster.
• Tourist refers to someone visiting a foreign country for a short-term leisure trip.
Correct word: Expatriate, which means someone living in a foreign country, but not necessarily for settlement or fleeing purposes.
Additional Information
• Expatriate is often used for professionals or individuals temporarily residing in a foreign country for work or personal reasons.
• Immigrant has a stronger connotation of permanence in moving to another country.
• Refugee carries implications of forced migration due to adverse situations.
• Tourist is strictly temporary and leisure-focused.

Q10. Answer: (c) King Midas asked his daughter to take her breakfast and bring a few roses from the garden.

The correct answer is '3' i.e. King Midas asked his daughter to take her breakfast and bring a few roses from the garden.
Key Points
• In indirect speech, the tense and pronouns are changed appropriately.
• The pronoun "her" is used in indirect speech as King Midas was addressing his daughter.
• The verb "bring" remains unchanged as it is part of the instruction.
• The correct option reflects both the instruction of taking breakfast and bringing roses accurately.
Correct sentence: King Midas asked his daughter to take her breakfast and bring a few roses from the garden.

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Additional Information

• Direct Speech: The original statement is quoted exactly as spoken by the speaker.

• Indirect Speech: The statement is paraphrased while maintaining the original meaning, with changes in tense, pronouns, and word order where necessary.

Q11. Answer: (a) Slowness

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

Key Points

• The word celerity means swiftness or speed.

• The antonym of celerity would be a word indicating the opposite of speed, which is slowness.

• Options like speed, rapid, and quick are synonyms of celerity and not antonyms.

Correct sentence: The antonym of the word "celerity" is slowness.

Additional Information

• Synonyms of celerity include swiftness, speed, and rapidity.

• Antonyms of celerity include slowness, sluggishness, and delay.

Q12. Answer: (b) She had an awfull headache that wouldn't go away.

The correct answer is '2' i.e. She had an awfull headache that wouldn't go away.

Key Points

• The word “awfull” is misspelled. The correct spelling is “awful.”

• Option 2 contains the misspelled word, making it the correct answer.

• The other sentences do not contain any spelling errors.

Correct sentence: She had an awful headache that wouldn't go away.

Additional Information

• Spelling errors often occur with words that have similar endings or phonetics. Always double-check such words in professional writing.

• Using correct spelling is essential for clear communication and maintaining credibility.

Q13. Answer: (d) citation

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

Key Points

• The sentence requires a correctly spelled word to complete the meaning.

• The word "citation" refers to a formal acknowledgment or award for someone's work or achievement, which fits the context of the sentence.

• All other options (sitation, citasion, citattion) are misspelled and incorrect.

Correct sentence: "The student received a citation for her excellent research paper.".

Additional Information

• Meaning of citation:

• A citation is a reference or acknowledgment of someone's work, often used in academic or formal contexts.

• It can also refer to an award or recognition for exceptional work.

• Spelling Tips:

• Ensure the word matches the intended meaning.

• Cross-check with a dictionary for accuracy.

Q14. Answer: (a) Has a private consortium funded the groundbreaking research for the past two years?

The correct answer is '1' i.e. Has a private consortium funded the groundbreaking research for the past two years?.

Key Points

• The original sentence is in the passive voice: Has the groundbreaking research been funded by a private consortium for the past two years?.

• To convert this into the active voice, we identify the subject (private consortium), the verb (has funded), and the object (groundbreaking research).

• The correct active voice sentence is: Has a private consortium funded the groundbreaking research for the past two years?.

Correct sentence: Has a private consortium funded the groundbreaking research for the past two years?.

Additional Information

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• Active voice: The subject performs the action of the verb (e.g., "A private consortium has funded the research").
• Passive voice: The subject receives the action of the verb (e.g., "The research has been funded by a private consortium").
• When converting sentences, ensure that the meaning remains intact and that the verb agrees with the subject.

Q15. Answer: (b) A lie will not be told by him.

The correct answer is '2' i.e. A lie will not be told by him.

Key Points

• The given sentence is in the active voice: "He will not tell a lie."
• To convert the sentence into passive voice, the object "a lie" becomes the subject.
• The structure for transforming into passive voice is: Object + will not + be + past participle of the verb + by + subject.
• Applying this structure, the correct passive voice is: "A lie will not be told by him."

Correct sentence: A lie will not be told by him.

Additional Information

• Active Voice: The subject performs the action (e.g., He tells a lie).
• Passive Voice: The subject receives the action (e.g., A lie is told by him).
• Key Transformation Rule: For passive voice in future tense, use "will + be + past participle."

Q16. Answer: (b) The student said, "The teacher has explained the lesson clearly."

The correct answer is '2' i.e. The student said, "The teacher has explained the lesson clearly.".

Key Points

• The given sentence is in indirect speech, and the task is to convert it into direct speech.
• In indirect speech, the past perfect tense (had explained) turns into present perfect tense (has explained) when converted to direct speech.
• The correct option is Option 2: The student said, "The teacher has explained the lesson clearly."

Correct sentence: The student said, "The teacher has explained the lesson clearly.".

Additional Information

• Rules for converting indirect to direct speech:
• In the past perfect tense, the verb remains unchanged in direct speech.
• Quotation marks (" ") are used to enclose the statement.
• Ensure the reporting verb (said) is followed by a comma before the quoted speech.
• Other options explained:
• Option 1: Incorrect because it uses the simple past tense (explained), which changes the tense.
• Option 3: Incorrect because it uses the past perfect tense (had explained), which is inconsistent with the original tense.
• Option 4: Incorrect because it uses the simple present tense (explains), which is inconsistent with the original tense.

Q17. Answer: (a) Significant changes are expected to have been brought about in the department by the new CEO by the end of...

The correct answer is '1', i.e. Significant changes are expected to have been brought about in the department by the new CEO by the end of the year.

Key Points

• The given sentence is in the active voice: The CEO is expected to have brought about significant changes in the department by the end of the year.
• In the passive voice, the object of the active sentence becomes the subject.
• Here, "Significant changes" are the object of the active voice sentence, so they become the subject in the passive voice.
• The correct structure for passive voice transformation in this case is: Object + is/are + expected + to have been + past participle.

Correct sentence: Significant changes are expected to have been brought about in the department by the new CEO by the end of the year.

Additional Information

• Active to Passive Voice Transformation Rules:
• The object of the active sentence becomes the subject of the passive sentence.
• The verb form changes to include the verb "to be" + past participle.
• The subject of the active sentence becomes the agent in the passive sentence (introduced by "by").
• In this case, "The CEO" is the agent, and "Significant changes" is the object turned subject in the passive voice.

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Q18. Answer: (b) Present simple

The correct answer is Option 2.

Key Points

• The verb "remains" is in the Present Simple tense.

• In English, the Present Simple is used to state facts, general truths, or permanent situations. The fact that the deep ocean is unexplored is a current, ongoing reality.

• Grammatically, "remains" is the third-person singular form of the root verb "remain." It follows the structure: Subject + Verb (s/es).

• The word count for the provided passage is approximately 155 words.

Therefore, the correct answer is Option 2.

Correct Sentence Analysis: "The deep ocean (Subject) remains (Present Simple Verb) one of the least explored parts..."

Additional Information

• Option 1: Past Perfect – This would require "had remained." It describes an action completed before another point in the past.

• Option 3: Present Continuous – This would require "is remaining." It describes an action happening exactly at the moment of speaking.

• Option 4: Future Simple – This would require "will remain." It describes an action that has not yet happened.

Q19. Answer: (a) Active voice - “ the subject performs the action

The correct answer is Option 1.

Key Points

• In Active Voice, the subject of the sentence performs the action expressed by the verb.

• In this sentence, the subject is "Some deep-sea creatures" (specifically, certain jellyfish). The action they are performing is "glow."

• Because the subjects themselves are performing the action of glowing, rather than having the action performed upon them, the sentence is in the active voice.

• The word count for the provided passage is 155 words.

Therefore, the correct answer is Option 1.

Voice Analysis: "Some deep-sea creatures (Subject) + glow (Action/Verb) + in the dark..."

Additional Information

• Option 2 & 3: Passive Voice – These are incorrect because the sentence does not use a "to be" verb + past participle (e.g., "Light is produced by..."). In passive voice, the subject receives the action.

• Option 4: Active voice - no verb – This is a contradiction. Every sentence must have a verb, and in this case, "glow" is the active verb.

Q20. Answer: (b) Giving off light naturally

The correct answer is Option 2.

Key Points

• The term "bioluminescent" is derived from the Greek word bios (life) and the Latin word lumen (light).

• In the context of the passage, it refers to the ability of deep-sea creatures, like the anglerfish and certain jellyfish, to produce and emit light through chemical reactions within their bodies.

• This light is produced "naturally" by the organism to survive in the "pitch-black depths" where sunlight cannot reach.

• The word count for the passage provided is 155 words.

Therefore, the correct answer is Option 2.

Contextual Sentence from Text: "One such example is the anglerfish, which uses a bioluminescent lure to attract its prey in the pitch-black depths."

Additional Information

• Option 1: Incorrect. There is no mention of artificial materials like plastic regarding the anatomy of these fish.

• Option 3: Incorrect. While some deep-sea animals may move slowly to conserve energy, "bioluminescent" specifically refers to light, not speed.

• Option 4: Incorrect. The passage states that human activities cause pollution, whereas bioluminescence is a natural biological process.

Q21. Answer: (c) A network of living and non-living things in an environment

The correct answer is Option 3.

Key Points

• An ecosystem is a biological community of interacting organisms and their physical environment.

• It includes all the living things (plants, animals, and organisms) in a given area, interacting with each other, and also with their non-living environments (weather, earth, sun, soil, climate, atmosphere).

• In the passage, the deep ocean is described as an environment where unique species (living) interact with extreme pressure and darkness (non-living).

• The word count for the passage provided is 155 words.

Therefore, the correct answer is Option 3.

Correct Sentence from Text: "These species play a crucial role in maintaining the ocean's delicate ecosystem."

Additional Information

• Option 1: "A group of buildings" – This refers to an urban area or a complex, not a natural biological system.

• Option 2: "A new invention" – An ecosystem is a natural occurrence, whereas an invention is a man-made creation.

• Option 4: "A type of fishing net" – While related to the ocean, this is a specific tool used by humans, not a system of environmental interactions.

Q22. Answer: (b) Deep-sea species are interesting but under threat and need protection

The correct answer is Option 2.

Key Points

• The passage introduces the deep ocean as a mysterious realm full of "fascinating" and "unique" species like the anglerfish and giant squid.

• It highlights the threats posed by human activities, specifically mentioning "deep-sea mining and pollution" that "threaten their existence."

• The conclusion emphasizes the importance of protection, stating that scientists stress safeguarding these "hidden worlds" for their potential secrets and medical benefits.

• The word count for the passage provided is 155 words.

Therefore, the correct answer is Option 2.

Correct Summary from Text: "Scientists stress the importance of protecting these hidden worlds, as they could hold secrets... however, human activities like mining and pollution threaten their existence."

Additional Information

• Option 1: Incorrect. The text suggests these species are helpful (ecosystem maintenance, medicine) rather than harmful.

• Option 3: Incorrect. The opening sentence states the deep ocean is "one of the least explored parts," implying it is difficult to explore.

• Option 4: Incorrect. The passage states that deep-sea mining threatens their existence, rather than helping them.

Q23. Answer: (d) berth, berth

The correct answer is '4' i.e. berth, berth.

Key Points

• The sentence requires two homonyms that make sense in the context.

• In the first blank, the word "berth" refers to a bed or bunk, typically on a train or ship.

• In the second blank, the word "berth" also means giving space or distance, as in "giving a wide berth."

• The pair "berth, berth" fits perfectly in the sentence.

Correct sentence: She quickly climbed onto her upper berth to give a wide berth to the unruly family creating a scene below.

Additional Information

• Homonyms: Words that sound the same (or are spelled the same) but have different meanings.

• Examples:

• "Berth" (a sleeping space) and "berth" (space or distance).

• "Bank" (a financial institution) and "bank" (the side of a river).

Q24. Answer: (c) rack, wrack

The correct answer is '3' i.e. rack, wrack.

Key Points

• The word rack is used in the phrase "rack your brains," which means to strain or exert your mind to recall or think deeply.

• The word wrack refers to wreckage or destruction, which aligns with the description of the "shore strewn with wrack and driftwood."

• Homonyms like "rack" and "wrack" are often confusing because they sound similar but have distinct meanings.

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Correct sentence: He had to rack his brains trying to remember how he came to be on the shore strewn with wrack and driftwood.

Additional Information

• Rack: Refers to a framework or act of strain, such as "rack your brains."

• Wrack: Refers to wreckage or destruction, often associated with things like seaweed or debris on the shore.

Q25. Answer: (b) Antipathy

The correct answer is '2' i.e. Antipathy.

Key Points

• The word "Antipathy" refers to a deep-seated feeling of dislike or aversion, which can be synonymous with a strong and deep hatred of something.

• Envy: Refers to a desire for what someone else has, not a form of hatred.

• Empathy: Refers to the ability to understand and share the feelings of another, not related to hatred.

• Sympathy: Refers to feelings of pity and sorrow for someone else's misfortune, not related to hatred.

• Thus, the correct option is Antipathy.

Correct sentence: "Which of the following words refers to a strong and deep hatred of something?" The answer is Antipathy.

Additional Information

• Antipathy: Often used to describe an intense dislike or aversion to something specific. For example: "He felt a strong antipathy towards dishonesty."

• Words like "Envy," "Empathy," and "Sympathy" have entirely different meanings and do not convey hatred or dislike.

Q26. Answer: (a) Son-in-law

Family Chart:

Given: Anita's daughter's son's sister's mother's husband is Vikram.

So, Vikram is the Son-in-law of Anita.

Hence, the correct answer is "Option 1".

Q27. Answer: (c) Son-in-law

Family Chart:

Given: In a family,

A is the son of P.

Q is the brother of A.

D is the mother of Q.

R is the father of D.

So, P is the Son-in-law of R.

Hence, the correct answer is "Option 3".

Q28. Answer: (a) Rs. 1,02,000

Given:

Company's profit in the first quarter = Rs. 1,20,000

According to Question:

In the second quarter, the profit decreased by 15%.

Decrease = 15% of 1,20,000

15% of 1,20,000 = (15 / 100) × 1,20,000

= 18,000

So; Profit in the second quarter = 1,20,000 − 18,000

= Rs. 1,02,000

Hence, the correct answer is Option 1.

Q29. Answer: (b) 30

Given ratio of boys : girls = 3 : 2

Number of boys = 18

3 parts = 18

1 part = 18 ÷ 3 = 6

Girls = 2 parts = 2 × 6 = 12

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Total students = 18 + 12 = 30
Hence, the correct answer is "Option 2".

Q30. Answer: (b) 6 days

A's one day work = 1/10
B's one day work = 1/15
Working together, one day work = 1/10 + 1/15
Taking LCM 30:
= 3/30 + 2/30
= 5/30
= 1/6
So, they will complete the work in 6 days.
Hence, the correct answer is "Option 2".

Q31. Answer: (c) R

The logic followed here is:
Logic: The difference is +4 each time.
So, 'R' will replace the question mark in the given series.
Hence, the correct answer is "Option 3".

Q32. Answer: (d) Synchronize signals based on peak patterns

Given Problem:
A city has traffic jams due to poorly timed signals.
Analysis of options:
Option 1) Charge tolls for entering congested areas
→ This may reduce traffic over time but is not an immediate solution.
Option 2) Ban vehicles during daytime
→ Impractical and disruptive for citizens; not a feasible immediate step.
Option 3) Build new roads immediately
→ Time-consuming and costly; cannot be implemented immediately.
Option 4) Synchronize signals based on peak patterns
→ Practical, can be implemented quickly, and directly addresses the problem of poorly timed signals.
Hence, the correct answer is "Option 4".

Q33. Answer: (b) Interchange 5 and 11

BODMAS Table:
Given equation: 5 + 3 × 2 − 11 = 12
Now, check each option one by one:
Option 1) Interchange 3 and 2
Equation becomes: 5 + 2 × 3 − 11 = 12
=> 5 + 6 − 11 = 0 ≠ 12
Option 2) Interchange 5 and 11
Equation becomes: 11 + 3 × 2 − 5 = 12
=> 11 + 6 − 5 = 12
Option 3) Interchange + and −
Equation becomes: 5 − 3 × 2 + 11 = 12
=> 5 − 6 + 11 = 10 ≠ 12
Option 4) Interchange × and +
Equation becomes: 5 × 3 + 2 − 11 = 12
=> 15 + 2 − 11 = 6 ≠ 12
Hence, the correct answer is "Option 2".

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Q34. Answer: (d) 11:121:1331

The logic followed here is:

Logic: (1st number)^2 = 2nd number and (1st number)^3 = 3rd number.

Given,

5 : 25 : 125

=> $(5)^2 = 25$

=> $(5)^3 = 125$

And,

6 : 36 : 216

=> $(6)^2 = 36$

=> $(6)^3 = 216$

Now, checking the options:

Option 1) 3 : 9 : 30

=> $(3)^2 = 9$

=> $(3)^3 = 27 \neq 30$

Option 2) 4 : 16 : 48

=> $(4)^2 = 16$

=> $(4)^3 = 64 \neq 48$

Option 3) 9 : 81 : 648

=> $(9)^2 = 81$

=> $(9)^3 = 729 \neq 648$

Option 4) 11 : 121 : 1331

=> $(11)^2 = 121$

=> $(11)^3 = 1331$

Hence, the correct option is "Option 4".

Q35. Answer: (b) 61

The given sequence is:

41, 43, 47, 53, 59, ?, 67

Observe the pattern:

These numbers are consecutive prime numbers.

41 → Prime

43 → Prime

47 → Prime

53 → Prime

59 → Prime

61 → Prime

67 → Prime

So, the missing number is 61.

Hence, the correct answer is Option (2).

Q36. Answer: (a) HKVU

The logic followed here is:

Logic: Each letter is shifted forward alternately by +1 and +2 in the English alphabet.

Given,

J O D A : K Q E C

Now, applying the same logic:

G I U S

So, G I U S : H K V U

Hence, the correct answer is "Option 1".

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Q37. Answer: (c) IBENGAL

The logic followed here is:

Logic: The last three letters of the word are moved to the front.

Given, E N G L I S H

Last three letters → I S H

Remaining letters → E N G L

So, ENGLISH : H E N G L I S

Now, applying the same logic:

B E N G A L I

Last three letters → A L I

Remaining letters → B E N G

So, BENGALI : I B E N G A L

Hence, the correct answer is "Option 3".

Q38. Answer: (c) Both conclusions I and II follow

Given Statements:

• All Hilux are Truck.

• Some Truck are Flat.

• Only Flat are Fit. (Note: This implies "All Fit are Flat" and "Fit cannot be anything else").

The least possible Venn diagram for the given statements is:

Conclusions:

I. Some Hilux are not Fit - True (Because "Only Flat are Fit" means Fit can exclusively belong to Flat. Since Hilux is not Flat, no Hilux can be Fit. If "No Hilux is Fit," then "Some Hilux are not Fit" is logically certain).

II. All Flat can never be Truck - True (Because the statement "Only Flat are Fit" restricts "Fit" to "Flat" alone. If all Flat became Truck, then Fit would also become Truck, which violates the exclusivity of the "Only" condition).

So, Both conclusion I and II follow.

Hence, the correct answer is "Option 3".

Q39. Answer: (a) Geneva, Switzerland: October 24th, 1945 (UN Day).

The reference statement given in the problem is,

Geneva, Switzerland: October 24th, 1945 (UN Day).

Let's match this statement with the given options one by one to figure out which one is exactly the same.

Option	Statement in Option	Given Statement	Comment
(1)	Geneva, Switzerland: October 24th, 1945 (UN Day).	Geneva, Switzerland: October 24th, 1945 (UN Day).	The statement is exactly the same as the given reference.
(2)	Geneva, Switzerland: October 24th, 1945 (U.N. Day).	Geneva, Switzerland: October 24th, 1945 (UN Day).	This option has “U.N. Day” instead of “UN Day”.
(3)	Geneva, Switzerlan.d: October 24th, 1945 (UN Day).	Geneva, Switzerland: October 24th, 1945 (UN Day).	This option has “Switzerlan.d” instead of “Switzerland”.
(4)	Geneva, Switzerland: Octobr 24th, 1945 (UN Day).	Geneva, Switzerland: October 24th, 1945 (UN Day).	This option has “Octobr” instead of “October”.

So, the statement that is exactly the same as the given reference statement is in option (1).

Hence, the correct option is "option (1)".

Q40. Answer: (a) OBV

The logic followed here is:

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

Hence, the correct answer is "Option 1".

Q41. Answer: (b) A

Given: 5 persons A, B, C, D and E are sitting around a circular table facing towards the centre (not necessarily in the same order).

B is sitting second to the right of D.

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A is sitting second to the right of B.
C is not an immediate neighbour of A.
Here, A is sitting third to the right of C.
Hence, the correct answer is "Option 2".

Q42. Answer: (c) West

Given:
W started walking straight from her office to go her home.
During her journey she turned 7 times right and 6 times left.
She is finally walking towards north to reach her home.
So, She started walking West.
Hence, the correct answer is "Option 3".

Q43. Answer: (b) West

Given:
M starts cycling 64 meters straight from her office.
During her journey she took 16 right turns.
Finally she is facing towards west direction.
So, She started cycling West.
Hence, the correct answer is "Option 2".

Q44. Answer: (a) 58, east

Given:
R walks 32 meters in east direction.
He turns left and walks 8 meters.
He turns right and walks 26 meters.
He finally turns right and walks 8 meters.
So, He is now 58, east from the starting point.
Hence, the correct answer is "Option 1".

Q45. Answer: (a) 820

The logic followed here is:
Logic: (Number × 6) + 5 = Related number.
Given,
33 : 203
=> (33 × 6) + 5
=> 198 + 5 = 203
And,
45 : 275
=> (45 × 6) + 5
=> 270 + 5 = 275
Now, applying the same logic:
? : 4925
=> (? × 6) + 5 = 4925
=> ? × 6 = 4925 − 5
=> ? × 6 = 4920
=> ? = 4920 ÷ 6
=> ? = 820
Hence, the correct option is "Option 1".

Q46. Answer: (c) Both I and II

BODMAS Table:
Given symbols:
A → +

B → −

C → ÷

D → ×

Check each equation:

I. 45 A 13 B 38 C 19 D 6 = 46

Substitute symbols:

45 + 13 − 38 ÷ 19 × 6

=> 45 + 13 - 2 × 6

=> 58 - 12 = 46 (True)

II. 13 A 47 B 36 C 4 D 5 = 15

Substitute symbols:

13 + 47 − 36 ÷ 4 × 5

=> 60 - 9 × 5

=> 60 - 45 = 15 (True)

Hence, both equation is correct.

Hence, the correct answer is "Option 3".

Q47. Answer: (c) 31522518

The logic followed here is:

Logic: Each letter is replaced by its position in the English alphabet.

Given, D E S K

Letter	Alphabet Position
D	4
E	5
S	19
K	11

So, DESK : 451911

And, T E S T

Letter	Alphabet Position
T	20
E	5
S	19
T	20

So, TEST : 2051920

Now, applying the same logic:

C O V E R

Letter	Alphabet Position
C	3
O	15
V	22
E	5
R	18

So, COVER : 31522518

Hence, the correct answer is "Option 3".

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Q48. Answer: (d) NEPOAX

The logic followed here is:

Logic: Each letter is shifted 4 letters backward in the English alphabet.

Given,

S H A R K S

So, SHARKS : O G N W D O

And, B A L L E R

So, BALLER : N A H H W X

Now, B E S T I R:

So, BESTIR : X A O P E N

Among the given options, the pattern that matches the backward shifting rule is:

NEPOAX

Hence, the correct answer is "Option 4".

Q49. Answer: (d) WXAZAN

The logic followed here is:

Logic: Each letter is converted using reverse alphabetical pattern (A ↔ Z, B ↔ Y, …) with slight position adjustment

Given: 'ANNUAL' is coded as 'WVQHIF'

'EVOLVE' is coded as 'AQHIQY'

Similarily, AFFECT → ?

So, AFFECT → WXAZAN

Hence, the correct answer is Option 4.

Q50. Answer: (d) HOTEL

Given word: HOSPITALITY

Letters available: H, O, S, P, I, T, A, L, I, T, Y

Option 1) HASTY

H	**A**	**S**	**T**	**Y**

→ Can be formed

Option 2) POSIT

P	**O**	**S**	**I**	**T**

→ Can be formed

Option 3) HOST

H	**O**	**S**	**T**

→ Can be formed

Option 4) HOTEL

H	**O**	**T**	**E**	**L**

E (E is not in HOSPITALITY)

→ Cannot be formed

Hence, the correct answer is "Option 4".

Q51. Answer: (b) 2

Given:

Expression = (√7 + √5)(√7 − √5)

Formula Used:

(a + b)(a − b) = a² − b²

Calculation:

=> (√7 + √5)(√7 − √5) = (√7)² − (√5)²

=> = 7 − 5

=> = 2

Therefore The correct answer is 2.

Q52. Answer: (d) 8

Given:

p = 1 + √3

q = 1 - √3

Formula Used:

$(p^2 + q^2) = p^2 + q^2$

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

Calculation:

=> $p^2 = (1 + \sqrt{3})^2$

=> $p^2 = 1^2 + 2 \times 1 \times \sqrt{3} + (\sqrt{3})^2$

=> $p^2 = 1 + 2\sqrt{3} + 3$

=> $p^2 = 4 + 2\sqrt{3}$

=> $q^2 = (1 - \sqrt{3})^2$

=> $q^2 = 1^2 - 2 \times 1 \times \sqrt{3} + (\sqrt{3})^2$

=> $q^2 = 1 - 2\sqrt{3} + 3$

=> $q^2 = 4 - 2\sqrt{3}$

=> $p^2 + q^2 = (4 + 2\sqrt{3}) + (4 - 2\sqrt{3})$

=> $p^2 + q^2 = 4 + 4 + 2\sqrt{3} - 2\sqrt{3}$

=> $p^2 + q^2 = 8$

Therefore The correct answer is 8.

Q53. Answer: (a) 2:1

Shortcut Trick

Investment Ratio of A and B = 12000 : 18000 = 2 : 3.

Time Ratio of A and B = 12 months : 4 months = 3 : 1.

Profit Ratio = (Investment Part × Time Part) = (2 × 3) : (3 × 1) = 6 : 3 = 2 : 1.

Therefore The correct answer is 2:1.

Alternate Method

Given:

Investment of A = Rs. 12000 | Investment of B = Rs. 18000

Duration for A = 1 year = 12 months | Duration for B = 4 months

Formula Used:

Profit Ratio = (Capital_A × Time_A) : (Capital_B × Time_B)

Calculations:

=> Profit of A : Profit of B = (12000 × 12) : (18000 × 4)

=> Profit Ratio = 144000 : 72000

=> Profit Ratio = 144 : 72

=> Profit Ratio = 2 : 1

Therefore The correct answer is 2:1.

Additional Information

Partnership Basic Principle

Total Profit is always distributed among partners in the ratio of the product of their Capital and the Time for which the capital was invested.

Constant Time Rule

If all partners invest for the same time period, the Profit Ratio is exactly equal to their Investment Ratio (P1:P2 = C1:C2).

Working vs. Sleeping Partner

A working partner may receive an additional salary or percentage of profit for managing the business before the remaining profit is divided.

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Q54. Answer: (c) 24

Given:

Ratio of ages of A and B = 4:5

After 6 years, ratio becomes = 5:6

Formula Used:

Present age of A = 4x

Present age of B = 5x

After 6 years, (A + 6)/(B + 6) = 5/6

Calculation:

=> (4x + 6)/(5x + 6) = 5/6

=> 6(4x + 6) = 5(5x + 6)

=> 24x + 36 = 25x + 30

=> 25x - 24x = 36 - 30

=> x = 6

=> Present age of A = 4x = 4 × 6 = 24

Therefore The correct answer is 24.

Q55. Answer: (b) 7

Given:

Numbers: 3, 5, 7

Increase in average: 2

Formula Used:

Average = (Sum of numbers) ÷ (Total numbers)

New Average = Original Average + Increase

Calculation:

=> Sum of numbers = 3 + 5 + 7 = 15

=> Original Average = 15 ÷ 3 = 5

=> New Average = 5 + 2 = 7

Therefore The correct answer is 7.

Q56. Answer: (b) 25%

Shortcut Trick

Find the ratio of the Initial Price to the Final Price: 200 : 150.

Simplify the ratio → 4 : 3.

The reduction is 1 unit out of the initial 4 units.

Percentage Decrease = (1 ÷ 4) × 100 = 25%.

Therefore The correct answer is 25%.

Alternate Method

Given:

Original Price = Rs. 200

New Price = Rs. 150

Formula Used: Percentage Decrease = [(Original Price − New Price) ÷ Original Price] × 100

Calculations:

=> Decrease Amount = 200 − 150 = 50

=> Percentage Decrease = (50 ÷ 200) × 100

=> Percentage Decrease = (1 ÷ 4) × 100

=> Percentage Decrease = 25%

Therefore The correct answer is 25%.

Additional Information

Percentage Change Formula

The general formula for percentage change is [(Difference) ÷ (Original Value)] × 100. Always use the initial value as the base for the denominator.

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Fractional Equivalents

Remembering common fractions like 1/2 = 50%, 1/4 = 25%, and 1/5 = 20% helps in solving simplification and percentage problems faster.

Percentage Increase vs. Decrease

While the numerator is always the absolute difference, the result is an increase if the final value is higher than the initial, and a decrease if it is lower.

Q57. Answer: (a) 66.67%

Given:

A's income = 40% less than B's income

Formula Used:

% increase = [(Difference in incomes) ÷ (Income of A)] × 100

Calculation:

Let B's income = 100

=> A's income = 100 - (40% of 100)

=> A's income = 100 - 40

=> A's income = 60

Difference in incomes = B's income - A's income

=> Difference = 100 - 60

=> Difference = 40

% increase = (40 ÷ 60) × 100

=> % increase = (2/3) × 100

=> % increase = 66.67%

Therefore The correct answer is 66.67%.

Q58. Answer: (a) Rs. 1380

Shortcut Trick

Consider Cost Price (CP) as 100%.

Since the item is sold at a loss of 8%, the Selling Price (SP) percentage = 100% − 8% = 92%.

SP = 92% of Rs. 1500 = 0.92 × 1500.

SP = 92 × 15 = Rs. 1380.

Therefore The correct answer is Rs. 1380.

Alternate Method

Given:

Cost Price (CP) of the watch = Rs. 1500

Loss Percentage = 8%

Formula Used:

Loss = (Loss% ÷ 100) × CP

Selling Price (SP) = CP − Loss

Calculations:

=> Loss = (8 ÷ 100) × 1500

=> Loss = 8 × 15 = Rs. 120

=> SP = 1500 − 120

=> SP = Rs. 1380

Therefore The correct answer is Rs. 1380.

Additional Information

Profit and Selling Price

When an item is sold at a profit, the Selling Price is calculated as: SP = CP × (100 + Profit%) ÷ 100.

Cost Price Calculation

To find the Cost Price when SP and Loss% are known: CP = (SP × 100) ÷ (100 − Loss%).

Base for Profit/Loss

Unless specified otherwise in the question, the percentage of Profit or Loss is always calculated on the Cost Price (CP).

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Q59. Answer: (b) 4% loss

Given:

Selling price of each product = 500

Profit on one product = 20%

Loss on other product = 20%

Formula Used:

Net loss % = $a^2 \div 100$ (when profit % = loss %)

Calculation:

=> Net loss % = $20^2 \div 100$

=> Net loss % = $400 \div 100$

=> Net loss % = 4%

Therefore The correct answer is 4%.

Q60. Answer: (c) 15%

Given:

Marked Price = Rs. 1600

Selling Price = Rs. 1360

Formula Used:

Discount = Marked Price - Selling Price

Discount Percentage = (Discount ÷ Marked Price) × 100

Calculation:

=> Discount = 1600 - 1360

=> Discount = 240

=> Discount Percentage = (240 ÷ 1600) × 100

=> Discount Percentage = 0.15 × 100

=> Discount Percentage = 15%

Therefore The correct answer is 15%.

Q61. Answer: (d) 20 L

Given:

Total mixture = 40 litres

Initial ratio (acid : water) = 7 : 3

Required ratio = 4 : 1

Formula Used:

Quantity = Total × (Part ÷ Sum of ratio)

New ratio = Acid ÷ Water

Calculation:

=> Initial acid = 40 × 7 ÷ 10

=> Initial acid = 28 litres

=> Initial water = 40 × 3 ÷ 10

=> Initial water = 12 litres

=> Let acid added = x

=> New acid = 28 + x

=> Water remains = 12

=> (28 + x) ÷ 12 = 4 ÷ 1

=> 28 + x = 48

=> x = 20

Therefore The correct answer is 20 litres.

Q62. Answer: (a) (2:1)

Given:

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

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

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Formula Used:

Ratio = Volume of sphere ÷ Volume of hemisphere

Calculation:

=> Ratio = [(4/3)πr³] ÷ [(2/3)πr³]

=> Ratio = [4 ÷ 2]

=> Ratio = 2:1

Therefore The correct answer is 2:1.

Q63. Answer: (c) 1080°

Shortcut Trick

For any regular polygon with n sides, the sum of all internal angles is calculated using the property (n − 2) × 180°.

An octagon has n = 8 sides.

Sum = (8 − 2) × 180°

Sum = 6 × 180° = 1080°.

Therefore The correct answer is 1080°.

Alternate Method

Given:

The polygon is a regular octagon paved inside a circular traffic junction.

=> Number of sides (n) = 8

Formula Used:

Sum of all internal angles of a polygon = (n − 2) × 180°

Calculations:

=> Total interior angles = (8 − 2) × 180°

=> Total interior angles = 6 × 180°

=> Total interior angles = 1080°

Therefore The correct answer is 1080°.

Additional Information

Interior Angle of a Regular Polygon

Each interior angle of a regular polygon is given by [(n − 2) × 180°] ÷ n. For an octagon, this is 1080° ÷ 8 = 135°.

Sum of Exterior Angles

The sum of the exterior angles of any convex polygon is always 360°, regardless of the number of sides.

Relation between Interior and Exterior Angles

At each vertex of a polygon, the sum of the interior angle and the corresponding exterior angle is always 180°.

Q64. Answer: (d) 108°

Given:

A regular pentagon.

Formula Used:

Sum of interior angles of a polygon = (n - 2) × 180°.

Measure of each interior angle = Sum of interior angles ÷ n.

Calculation:

=> n = 5 (since it is a pentagon).

=> Sum of interior angles = (5 - 2) × 180°.

=> Sum of interior angles = 3 × 180° = 540°.

=> Measure of each interior angle = 540° ÷ 5.

=> Measure of each interior angle = 108°.

Therefore The correct answer is 108°.

Q65. Answer: (b) 73

Given:

Height of cone (h) = 24 cm

Radius of cone (R) = 3.5 cm

Radius of each sphere (r) = 1 cm

Formula Used:
Volume of cone = (1 ÷ 3) × π × R² × h
Volume of sphere = (4 ÷ 3) × π × r³
Calculation:
=> Volume of cone = (1 ÷ 3) × π × (3.5)² × 24
=> Volume of cone = (1 ÷ 3) × π × 12.25 × 24
=> Volume of cone = (1 ÷ 3) × π × 294
=> Volume of cone = 98π
=> Volume of one sphere = (4 ÷ 3) × π × 1³
=> Volume of one sphere = (4 ÷ 3)π
=> Number of spheres = 98π ÷ [(4 ÷ 3)π]
=> Number of spheres = 98 × (3 ÷ 4)
=> Number of spheres = 73.5
=> Number of complete spheres = 73
Therefore The correct answer is 73.

Q66. Answer: (c) 120 π cm²

Given:
Radius of cylinder (r) = 5 cm
Height of cylinder (h) = 12 cm
Formula Used:
Lateral surface area of cylinder = 2 × π × r × h
Calculation:
=> Area of label = 2 × π × 5 × 12
=> Area of label = 120π
Therefore The correct answer is 120π cm².

Q67. Answer: (c) 312 cm²

Given:
Sides of triangular base = 6 cm, 8 cm, 10 cm
Length of prism = 12 cm
Formula Used:
Area of right triangle = (1 ÷ 2) × base × height
Lateral surface area of prism = Perimeter of base × length
Calculation:
=> Since 6² + 8² = 10², triangle is right angled
=> Area of triangular top = (1 ÷ 2) × 6 × 8
=> Area of triangular top = 24
=> Perimeter of base = 6 + 8 + 10
=> Perimeter of base = 24
=> Lateral surface area = 24 × 12
=> Lateral surface area = 288
=> Total painted area = 24 + 288
=> Total painted area = 312 cm²
Therefore The correct answer is 312 cm².

Q68. Answer: (a) 3 m

Given:
Volume of sphere = 36π m³
Formula Used:
Volume of sphere = 4 ÷ 3 × πr³
Calculation:
=> 4 ÷ 3 × πr³ = 36π

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=> 4 ÷ 3 × r^3 = 36

=> 4r^3 = 108

=> r^3 = 27

=> r = 3 m

Therefore The correct answer is 3 m.

Q69. Answer: (b) 1213/99

Given:

x = 12.252525...

Formula Used:

If x = a.b where two digits repeat, multiply by 100 and subtract

Calculation:

=> x = 12.252525...

=> 100x = 1225.252525...

=> 100x − x = 1225.252525... − 12.252525...

=> 99x = 1213

=> x = 1213 ÷ 99

Therefore The correct answer is 1213 ÷ 99.

Q70. Answer: (b) 0.72

Shortcut Trick

Identify the trigonometric identity for complementary angles: cos(90° − θ) = sin θ.

Substitute this into the expression: $\sin^2\theta + \cos^2(90° - \theta) = \sin^2\theta + \sin^2\theta$.

The simplified expression is 2 × $\sin^2\theta$.

Given sin θ = 0.6, the value is 2 × $(0.6)^2$ = 2 × 0.36 = 0.72.

Therefore The correct answer is 0.72.

Alternate Method

Given:

Angle of first beam = θ

Angle of second beam = 90° − θ

Value of sin θ = 0.6

Formula Used:

1. Trigonometric identity for complementary angles: cos(90° − θ) = sin θ

2. Algebraic substitution: $(x)^2 = x^2$

Calculations:

=> sin θ = 0.6

=> cos(90° − θ) = sin θ = 0.6

=> $\sin^2\theta = (0.6)^2 = 0.36$

=> $\cos^2(90° - \theta) = (0.6)^2 = 0.36$

=> $\sin^2\theta + \cos^2(90° - \theta) = 0.36 + 0.36$

=> Total Value = 0.72

Therefore The correct answer is 0.72.

Additional Information

Complementary Angle Identities

For any angle θ, sin(90° − θ) = cos θ, tan(90° − θ) = cot θ, and sec(90° − θ) = cosec θ.

Pythagorean Identity

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

Standard Triplets

If sin θ = 0.6 (which is 3/5), then cos θ = 0.8 (which is 4/5), following the 3-4-5 right-angled triangle ratio.

Q71. Answer: (d) 24

Shortcut Trick

Find the square roots of the boundary numbers: √50 ≈ 7.07 and √1000 ≈ 31.62.

The smallest integer whose square is greater than 50 is 8.

The largest integer whose square is less than 1000 is 31.

Number of perfect squares = (Last Root − First Root) + 1 = (31 − 8) + 1 = 24.

Therefore The correct answer is 24.

Alternate Method

Given: Lower limit = 50, Upper limit = 1000.

Formula: Number of terms in a sequence (n) = Last term − First term + 1.

=> Smallest perfect square > 50 is $8^2 = 64$.

=> Largest perfect square < 1000 is $31^2 = 961$ (since $32^2 = 1024$).

=> The set of integers whose squares lie in the range is {8, 9, 10, ..., 31}.

=> Total count = 31 − 8 + 1

=> Total count = 23 + 1 = 24.

Therefore The correct answer is 24.

Additional Information

Perfect Square Property

A number is a perfect square if its square root is an integer. Examples include 1, 4, 9, 16, 25, etc.

Consecutive Squares Difference

The difference between the squares of two consecutive integers n and (n+1) is always (2n + 1). For example, $9^2 − 8^2 = 81 − 64 = 17$, which is (2 × 8) + 1.

Square Root Estimation

To find the range, use benchmark squares: $10^2 = 100$, $20^2 = 400$, $30^2 = 900$. This helps quickly locate the integer roots near the boundaries.

Q72. Answer: (d) Rs. 5,900

Given:

Principal = 5000

Rate = 6% per annum

Time = 3 years

Formula Used:

Simple Interest = Principal × Rate × Time ÷ 100

Total Amount = Principal + Simple Interest

Calculation:

=> Simple Interest = 5000 × 6 × 3 ÷ 100

=> Simple Interest = 900

=> Total Amount = 5000 + 900

=> Total Amount = 5900

Therefore The correct answer is 5900.

Q73. Answer: (c) 1000

Shortcut Trick

The expression is in the form $(a^3 + b^3) / (a^2 − ab + b^2)$.

This algebraic structure always simplifies to (a + b).

Here, a = 785 and b = 215.

Result = 785 + 215 = 1000.

Therefore The correct answer is 1000.

Alternate Method

Given:

Expression = (785 × 785 × 785 + 215 × 215 × 215) / (785 × 785 − 785 × 215 + 215 × 215)

Formula Used:

$a^3 + b^3 = (a + b)(a^2 − ab + b^2)$

Calculations:

=> Let a = 785 and b = 215.

=> The numerator is $(a × a × a + b × b × b) = a^3 + b^3$.

=> The denominator is (a × a − a × b + b × b) = $a^2 - ab + b^2$.

=> Expression = $(a^3 + b^3) / (a^2 - ab + b^2)$

=> Expression = $[(a + b)(a^2 - ab + b^2)] / (a^2 - ab + b^2)$

=> Expression = a + b

=> Value = 785 + 215 = 1000

Therefore The correct answer is 1000.

Additional Information

Sum of Two Cubes

The identity $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$ is used to simplify expressions where the sum of cubes is divided by its quadratic factor.

Difference of Two Cubes

The identity $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$ is similar and results in (a − b) when divided by its quadratic component.

Cube of a Sum

$(a + b)^3 = a^3 + b^3 + 3ab(a + b)$, which is different from the sum of individual cubes.

Difference of Squares

$a^2 - b^2 = (a - b)(a + b)$, a fundamental identity for simplifying products and factors.

Q74. Answer: (d) 1681

Given:

Series = 1 + 2 + 3 + ... + 40 + 41 + 40 + ... + 3 + 2 + 1

Formula Used:

Sum of first n natural numbers = n(n + 1) ÷ 2

Calculation:

=> Required sum = Sum(1 to 41) + Sum(1 to 40)

=> Sum(1 to 41) = 41(41 + 1) ÷ 2

=> Sum(1 to 41) = 41 × 42 ÷ 2

=> Sum(1 to 41) = 861

=> Sum(1 to 40) = 40(40 + 1) ÷ 2

=> Sum(1 to 40) = 40 × 41 ÷ 2

=> Sum(1 to 40) = 820

=> Total sum = 861 + 820

=> Total sum = 1681

Therefore The correct answer is 1681.

Q75. Answer: (b) cosec(x) + cot(x)

Given:

Expression = (1 + cosx) ÷ sinx

Formula Used:

(a + b) ÷ c = a ÷ c + b ÷ c

cosecx = 1 ÷ sinx

cotx = cosx ÷ sinx

Calculation:

=> (1 + cosx) ÷ sinx

=> 1 ÷ sinx + cosx ÷ sinx

=> cosecx + cotx

Therefore The simplified form is cosecx + cotx.

Q76. Answer: (a) Devendra Jhajharia

The correct answer is Devendra Jhajharia.

Key Points

• Devendra Jhajharia, a celebrated Indian para-athlete, was elected as the President of the Paralympic Committee of India (PCI) in March 2024.

• He is a two-time Paralympic gold medalist in the javelin throw and is regarded as one of India's most successful para-athletes.

• His appointment as the PCI President reflects his commitment to promoting and advancing para-sports in India.

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• The Paralympic Committee of India is the apex body responsible for selecting athletes and organizing their participation in international Paralympic events.

• Jhajharia's leadership is expected to bring significant reforms and growth to the para-sports ecosystem in India, leveraging his extensive experience as an athlete.

Additional Information

• About Devendra Jhajharia:

• He is the first Indian Paralympian to win two gold medals at the Paralympic Games (2004 Athens and 2016 Rio).

• Born on 10 June 1981 in Rajasthan, he lost his left hand at the age of eight after coming into contact with a live wire.

• His achievements include multiple awards such as the Padma Bhushan (2022), Padma Shri (2012), and Rajiv Gandhi Khel Ratna Award (now known as Major Dhyan Chand Khel Ratna Award).

• He holds the world record in the F46 javelin throw category, with a throw of 63.97 meters.

• Paralympic Committee of India (PCI):

• The PCI is the National Paralympic Committee for India, affiliated with the International Paralympic Committee (IPC).

• Its primary role is to promote para-sports, organize national championships, and facilitate the participation of Indian athletes in international events, including the Paralympic Games.

• The PCI plays a crucial role in ensuring inclusivity and equal opportunities for athletes with disabilities.

• Other Prominent Para-athletes:

• Anil Kumar Prakash: Known for his contributions to Indian athletics, but not associated with para-sports or PCI leadership.

• Sundar Singh Gurjar: A javelin thrower who won bronze at the Tokyo 2020 Paralympics, but not involved in PCI leadership.

• Mariyappan Thangavelu: A Paralympic high jumper and gold medalist at Rio 2016, but not the PCI President.

• India's Achievements in Paralympics:

• India has seen tremendous success in the Paralympics, with athletes excelling in events like javelin throw, high jump, and shooting.

• At the Tokyo 2020 Paralympics, India won a total of 19 medals, including 5 gold, 8 silver, and 6 bronze, making it the country's best performance to date.

• The success of athletes like Devendra Jhajharia, Mariyappan Thangavelu, and Avani Lekhara has inspired a new generation of para-athletes in India.

Q77. Answer: (b) Jharkhand

The correct answer is Jharkhand.

Key Points

• Hemant Soren took oath as the Chief Minister of Jharkhand in November 2024.

• Hemant Soren belongs to the Jharkhand Mukti Morcha (JMM) party, which has played a significant role in state politics.

• Jharkhand became a separate state on 15 November 2000, carved out from Bihar, and has a distinct tribal and cultural identity.

• Hemant Soren has previously served as the Chief Minister of Jharkhand, making a significant impact in areas like tribal welfare and development.

• The state of Jharkhand is known for its rich mineral resources, contributing significantly to India's mining industry.

Additional Information

• About Jharkhand:

• Location: Jharkhand is located in eastern India, bordered by Bihar, Uttar Pradesh, Chhattisgarh, Odisha, and West Bengal.

• Capital: Ranchi is the capital of Jharkhand.

• Mineral Wealth: Jharkhand is rich in minerals like coal, iron ore, copper, mica, bauxite, and uranium.

• Tribal Population: Jharkhand has a significant tribal population, including communities like Santhals, Oraons, Mundas, and Ho.

• Formation: It was formed on 15 November 2000, coinciding with the birth anniversary of tribal leader Birsa Munda.

• Hemant Soren's Political Leadership:

• Hemant Soren is the leader of the Jharkhand Mukti Morcha (JMM), a party primarily focused on tribal rights and development.

• Under his leadership, Jharkhand has seen initiatives in education, healthcare, and tribal welfare.

• He has emphasized the importance of sustainable development and resource management in the state.

• Minerals and Economy:

• Jharkhand accounts for 40% of India's mineral resources, making it a vital contributor to the economy.

• Industries like mining, steel production, and power generation are prominent in the state.

• Key cities include Jamshedpur (home to Tata Steel), Bokaro (known for its steel plant), and Dhanbad (coal mining hub).

• Geographical Features:

• The state is characterized by its forests, hills, and plateaus, making it rich in biodiversity.

• Major rivers like the Damodar, Subarnarekha, and Koel flow through Jharkhand, supporting agriculture and industry.

Important Points

• Birsa Munda:

• Birsa Munda was a tribal freedom fighter and folk hero in Jharkhand, who led the Munda Rebellion against British colonial rule in the late 19th century.

• His legacy is celebrated in Jharkhand, and he is considered a symbol of tribal resistance.

• Tribal Welfare:

• Jharkhand's government has implemented policies to improve the living standards of tribal communities, focusing on education, healthcare, and employment.

• Programs like the Johar Scheme aim to promote sustainable livelihoods for tribal populations.

Q78. Answer: (b) Lt Gen Dinesh Singh Rana

The correct answer is Lt Gen Dinesh Singh Rana.

Key Points

• Lt Gen Dinesh Singh Rana assumed office as the 18th Commander-in-Chief of the Andaman and Nicobar Command in June 2025.

• The Andaman and Nicobar Command (ANC) is India's only tri-services command comprising elements from the Army, Navy, and Air Force.

• He succeeded Lt Gen Ajai Singh, who was the previous Commander-in-Chief of ANC.

• The Andaman and Nicobar Command plays a crucial role in strengthening India’s maritime security and ensuring strategic dominance in the Indian Ocean Region.

• The appointment highlights the significance of ANC in national defense and its role in supporting India’s Act East Policy and maritime partnerships.

Additional Information

• Andaman and Nicobar Command (ANC):

• The ANC was established in 2001 and is headquartered in Port Blair.

• It is India's first and only integrated theater command, created to ensure better coordination among the three armed forces.

• The command is strategically located in the Indian Ocean Region, which is critical for India’s maritime security and trade.

• Lt Gen Dinesh Singh Rana:

• Lt Gen Dinesh Singh Rana is a highly experienced officer with significant contributions to India’s defense operations.

• He has held various important positions in the Army and is known for his expertise in strategic planning and operational management.

• Strategic Importance of Andaman and Nicobar Islands:

• The islands act as a gateway to the Malacca Strait, a crucial sea route in global trade.

• They provide India with a strategic edge in monitoring and controlling activities in the Indian Ocean Region.

• The islands are essential for implementing India’s Act East Policy and fostering maritime partnerships with neighboring countries.

• Role of ANC in National Security:

• The ANC enhances India’s capabilities in tackling threats such as piracy, smuggling, and terrorism.

• It facilitates joint operations and training exercises among the Army, Navy, and Air Force.

• The command is crucial for disaster relief and humanitarian assistance in the region.

Important Points

• Previous Commanders:

• Lt Gen Ajai Singh served as the Commander-in-Chief of ANC prior to Lt Gen Dinesh Singh Rana.

• Other notable leaders include Lt Gen Anil Chauhan, who played significant roles in strengthening India’s strategic capabilities.

• India’s Maritime Strategy:

• India aims to enhance its presence in the Indian Ocean Region through initiatives such as the Blue Economy and SAGAR (Security and Growth for All in the Region).

• The ANC is pivotal in supporting these maritime strategies and safeguarding India’s economic and security interests.

Q79. Answer: (a) 30

The correct answer is 1) 30 crore.

Key Points

• The Swachhata Hi Seva (SHS) campaign 2024 was conducted from 17th September to 2nd October, aligning with the birth

anniversary of Mahatma Gandhi on 2nd October, which is celebrated as Gandhi Jayanti.

• The campaign received an overwhelming participation of over 30 crore people across India, showcasing the citizens' commitment to cleanliness and sanitation.

• The campaign's aim was to strengthen the Swachh Bharat Mission (SBM) by focusing on public awareness and active participation in cleanliness drives.

• During the SHS campaign, various activities like shramdaan (voluntary labor), cleaning public places, and creating awareness about waste management were undertaken nationwide.

• The campaign also emphasized the importance of reducing single-use plastics and encouraged sustainable waste management practices.

Additional Information

• Swachh Bharat Mission (SBM):

• The Swachh Bharat Mission was launched by the Government of India on 2nd October 2014, with the aim of eliminating open defecation and improving solid waste management.

• It is divided into two sub-missions: SBM (Gramin) for rural areas and SBM (Urban) for urban areas.

• The mission seeks to bring behavioral changes in people regarding sanitation practices and create a cleaner and healthier environment.

• Gandhi Jayanti and Cleanliness:

• 2nd October marks the birth anniversary of Mahatma Gandhi, who strongly advocated for cleanliness and hygiene as an integral part of life.

• To honor his vision, the Swachh Bharat Mission and campaigns like Swachhata Hi Seva are aligned with this day, reinforcing the importance of cleanliness.

• Participation in SHS Campaign:

• The campaign saw the active involvement of citizens, government departments, schools, colleges, NGOs, and local bodies.

• Activities included cleaning streets, beaches, rivers, and public places, as well as organizing workshops and awareness programs on waste management.

• Impact of Swachhata Hi Seva Campaign:

• It has significantly contributed to spreading awareness about the need for cleanliness and sanitation in both rural and urban areas.

• The campaign has played a key role in mobilizing collective action and fostering a sense of responsibility among citizens towards maintaining a clean environment.

Q80. Answer: (d) 500

The correct answer is Option 4 (500 crores).

Key Points

• The Union Budget 2025-26 announced the establishment of a Centre of Excellence in Artificial Intelligence with a total outlay of Rs 500 crores.

• This initiative is aimed at leveraging Artificial Intelligence (AI) technologies to revolutionize education in India and improve the learning ecosystem.

• The proposed Centre of Excellence will focus on research, development, and application of AI in areas such as personalized learning, skill development, and teacher training.

• The allocation of Rs 500 crores underscores the government’s commitment to fostering a technology-driven education system and preparing students for future technological advancements.

• This budget allocation aligns with India’s broader focus on Digital India and the integration of emerging technologies in various sectors, particularly education.

Additional Information

• Artificial Intelligence in Education:

• Artificial Intelligence is transforming the education sector by enabling personalized learning experiences based on individual student needs.

• AI-powered tools such as virtual tutors, adaptive learning platforms, and automated assessments ensure effective teaching and learning outcomes.

• It facilitates data-driven decision-making for educators and policymakers to improve curriculum design and teaching methodologies.

• Digital India Initiative:

• The Digital India program, launched in 2015, aims to transform India into a digitally empowered society and knowledge economy.

• One of its key objectives is to integrate emerging technologies like AI, Machine Learning, and Big Data into various sectors,

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including education.

• Under this initiative, projects like DIKSHA (Digital Infrastructure for Knowledge Sharing) provide online educational resources to teachers and students.

• Government Efforts in AI:

• India has established the National Artificial Intelligence Portal to promote AI research and innovation.

• The government is focusing on implementing AI across sectors, including healthcare, agriculture, and education, to enhance efficiency and productivity.

• Initiatives like the Responsible AI for Youth program aim to empower students with AI skills.

• Global AI Trends in Education:

• Globally, AI is being used in education to create intelligent tutoring systems and provide real-time feedback to students.

• Countries like the United States, China, and South Korea are investing heavily in AI research to improve education systems.

• AI applications such as Duolingo and Coursera are widely used for skill development and online learning.

Important Points

• Significance of Rs 500 Crores Allocation:

• The allocation of Rs 500 crores highlights the government's focus on enhancing AI infrastructure for education.

• This substantial investment is expected to attract global collaborations and partnerships in the field of AI.

• The funding will be utilized for capacity building, research, and development in AI applications tailored to the Indian education system.

Q81. Answer: (a) 1.7

The correct answer is 1.7 crore farmers.

Key Points

• The Prime Minister Dhan-Dhaanya Krishi Yojana was approved in July 2025 to strengthen the agricultural sector and ensure the welfare of farmers across India.

• The scheme primarily aims to benefit an initial target of 1.7 crore farmers, focusing on small and marginal farmers who constitute the majority of the agricultural workforce in India.

• It is designed to provide financial assistance, modern farming techniques, and access to market linkages to ensure better productivity and profitability for the farmers.

• The scheme also aligns with the government's broader goal of doubling farmers' income by 2025, as envisioned in earlier policy initiatives like the Doubling Farmers' Income Committee report.

• By focusing on 1.7 crore farmers, the initiative seeks to address key challenges such as lack of irrigation facilities, dependence on monsoons, and inadequate access to modern farming inputs.

Additional Information

• Prime Minister Dhan-Dhaanya Krishi Yojana:

• It is a flagship initiative by the government aimed at improving agricultural productivity and enhancing the economic conditions of farmers in India.

• The scheme includes provisions for subsidized seeds, fertilizers, and farming equipment, along with support for organic farming practices.

• It integrates technology-driven solutions such as precision farming and digital market access platforms to empower farmers.

• The program also emphasizes sustainable agriculture by promoting water conservation, efficient irrigation systems, and environmentally friendly farming methods.

• Key Challenges in Indian Agriculture:

• India's agriculture sector faces issues such as low productivity, fragmented land holdings, and climatic vulnerabilities.

• Farmers often struggle with access to credit, market linkages, and fair price realization for their produce.

• Dependence on traditional farming methods and inadequate irrigation facilities further exacerbate the challenges.

• Government Initiatives for Farmers:

• Pradhan Mantri Kisan Samman Nidhi (PM-KISAN): A scheme providing direct income support of Rs. 6,000 annually to farmers in three installments.

• Pradhan Mantri Fasal Bima Yojana (PMFBY): Offers crop insurance to protect farmers against natural calamities.

• Soil Health Card Scheme: Helps farmers understand the nutrient status of their soil and improve its fertility.

• e-NAM (National Agriculture Market): A pan-India electronic trading platform to provide better price realization.

• Important Points:

• The initial focus on 1.7 crore farmers is critical, as small and marginal farmers make up more than 85% of the farming population in India.

• The scheme aims to address rural poverty and mitigate agricultural distress by boosting income levels and ensuring financial stability.

• It also aligns with the United Nations' Sustainable Development Goals (SDGs), particularly those related to ending poverty and hunger.

Q82. Answer: (a) women-led Self-Help Groups

The correct answer is women-led Self-Help Groups.

Key Points

• Namo Drone Didi is a central sector scheme initiated by the Government of India with a focus on empowering women-led Self-Help Groups (SHGs). This initiative aims to foster social and economic development in rural areas.

• The scheme focuses on providing training and resources to women SHG members in operating and maintaining drones to be used in various sectors such as agriculture, healthcare, and disaster management.

• This program is aligned with the government's broader strategy of promoting women empowerment and increasing their participation in cutting-edge technologies.

• The scheme also supports the Digital India initiative by integrating advanced drone technology into rural livelihoods and encouraging innovation.

• The program provides a platform for women to become entrepreneurs and contribute to the local economy, thereby fostering socio-economic growth.

Additional Information

• Self-Help Groups (SHGs):

• SHGs are small, voluntary groups formed to promote savings, credit, and self-reliance among members. They typically consist of 10-20 members, often women.

• These groups play a crucial role in rural development, poverty alleviation, and women empowerment.

• SHGs are often supported by institutions like the National Bank for Agriculture and Rural Development (NABARD) and local governments.

• Activities include microfinance, skill development, and income generation, which enhance the socio-economic status of members.

• Applications of Drone Technology:

• Agriculture: Drones are used for precision farming, monitoring crops, spraying pesticides, and mapping fields.

• Healthcare: Drones assist in delivering medicines, vaccines, and critical supplies to remote or disaster-stricken areas.

• Disaster Management: Drones are employed for search and rescue missions, damage assessment, and delivering aid in disaster-hit regions.

• Infrastructure: They are used for surveying, monitoring construction projects, and inspecting infrastructure like bridges and power lines.

• Digital India Initiative:

• Launched in 2015, the Digital India program aims to transform India into a digitally empowered society and knowledge economy.

• It focuses on improving online infrastructure, increasing internet connectivity, and making government services available digitally.

• The initiative promotes the use of advanced technologies, such as drones, to enhance governance and deliver citizen-centric services.

• Women Empowerment through Technology:

• Providing access to technology enhances women's ability to participate in economic activities, increasing their income and improving their quality of life.

• Programs like Namo Drone Didi aim to bridge the gender gap in technology adoption and create opportunities for women to contribute to the tech-driven economy.

Q83. Answer: (a) 2.8%

The correct answer is 2.8%.

Key Points

• The Financial Inclusion Index (FI-Index) is released annually by the Reserve Bank of India (RBI) to measure the extent of financial inclusion in the country.

• The FI-Index is a comprehensive measure that includes parameters like access, usage, and quality of financial services.

• For the fiscal year 2025, the Financial Inclusion Index improved by 2.8% compared to FY 2024.

• This improvement reflects the success of government schemes, policies, and financial literacy programs aimed at increasing the penetration of financial services.

• The index score is calculated on a scale of 0 to 100, where 0 represents complete financial exclusion and 100 signifies full financial inclusion.

Additional Information

• About RBI's Financial Inclusion Index (FI-Index):

• The FI-Index was first introduced in 2021 by the Reserve Bank of India.

• It is a single composite index that provides a snapshot of the level of financial inclusion in the country.

• The index is computed annually and is based on three key parameters: Access (35%), Usage (45%), and Quality (20%).

• The index covers various dimensions such as banking, investments, insurance, postal services, and pension schemes.

• Significance of the FI-Index:

• Helps policymakers identify gaps in financial inclusion and devise targeted policies to address them.

• Measures the impact of financial literacy initiatives and government schemes like Pradhan Mantri Jan Dhan Yojana and Digital India campaigns.

• Encourages financial institutions to expand their services to underbanked and unbanked regions.

• Key Government Schemes Supporting Financial Inclusion:

• Pradhan Mantri Jan Dhan Yojana (PMJDY): This scheme aimed to provide every household with access to banking facilities, including savings accounts, credit, insurance, and pension.

• Digital India Initiative: Promotes digital payment systems and encourages people to adopt cashless transactions.

• MUDRA Yojana: Provides microfinance and loans to small businesses and entrepreneurs to enhance their financial inclusion.

• Important Points:

• The improvement in the Financial Inclusion Index reflects increased penetration of banking services, digital payments, and financial awareness among citizens.

• The FI-Index is not a state-wise or region-specific index; it provides an overall measure of financial inclusion at the national level.

• It serves as a tool to monitor progress and ensure the equitable distribution of financial services across socio-economic groups.

Q84. Answer: (d) 10

The correct answer is 10.

Key Points

• The District Hospital Index is a composite index published by NITI Aayog, the policy think tank of the Government of India, to evaluate the performance of district hospitals.

• The index is based on 10 Key Performance Indicators (KPIs). These KPIs are carefully chosen to assess the overall efficiency, quality, and effectiveness of services provided by district hospitals.

• The KPIs include metrics such as patient satisfaction, staff availability, bed occupancy rates, treatment outcomes, and infrastructure adequacy.

• The evaluation aims to identify gaps in healthcare delivery, enabling evidence-based improvements in health systems across districts.

• This initiative aligns with the government's vision of ensuring a robust and equitable healthcare system, emphasizing transparency and accountability in public health institutions.

Additional Information

• Key Performance Indicators (KPIs):

• The 10 KPIs used in the District Hospital Index include OPD/IPD services, availability of diagnostic services, and adherence to clinical protocols.

• These indicators are designed to cover important aspects of service delivery, ranging from patient care to operational efficiency.

• The data for these KPIs is collected through health management information systems (HMIS) and facility-level assessments.

• NITI Aayog:

• NITI Aayog (National Institution for Transforming India) was established in 2015 to replace the Planning Commission.

• It serves as the policy think tank of the Government of India, providing strategic insights and fostering cooperative federalism.

• Its focus areas include healthcare, education, agriculture, infrastructure, and innovation.

• District Hospitals in India:

• District hospitals are the primary referral centers for secondary-level healthcare services.

• They cater to a large population, often serving as the backbone of the public healthcare system in India.

• These hospitals provide services such as specialist care, emergency treatment, and surgical procedures.

• Importance of Hospital Performance Evaluation:

• Evaluating hospital performance ensures accountability and efficient use of resources.

• It highlights areas of improvement, enabling stakeholders to address gaps and deliver better healthcare services.

• Performance evaluation is also crucial for achieving universal health coverage and improving health outcomes.

Q85. Answer: (b) Gir National Park

The correct answer is Gir National Park.

Key Points

• The 7th meeting of the National Board for Wildlife (NBWL) was held at the Gir National Park, which is one of the most prominent wildlife sanctuaries in India.

• Gir National Park is located in the state of Gujarat and is famously known as the last abode of the Asiatic Lions.

• The National Board for Wildlife (NBWL) is a statutory organization under the Wildlife Protection Act, 1972, and serves as an apex body for reviewing and approving wildlife-related projects and policies in India.

• The board consists of experts, government officials, and stakeholders to ensure the conservation of wildlife and its habitats.

• Gir National Park is known for its significant contributions to the conservation of endangered species and promoting wildlife tourism in India.

Additional Information

• Gir National Park:

• Location: Situated in Junagadh district, Gujarat, Gir National Park is spread over approximately 1,412 sq. km.

• Flora and Fauna: The park is home to a variety of flora and fauna, including the Asiatic Lion, leopards, antelopes, and crocodiles, along with over 400 species of plants.

• Tourism: Gir attracts numerous tourists every year, contributing to the state's economy while raising awareness about wildlife conservation.

• Conservation Efforts: The park has achieved great success in increasing the population of Asiatic Lions through dedicated conservation programs.

• The Asiatic Lion Census 2020 reported approximately 674 lions, marking a significant increase in their population.

• National Board for Wildlife (NBWL):

• The NBWL is chaired by the Prime Minister of India and serves as the apex body for wildlife conservation in the country.

• It is tasked with approving projects that affect protected areas and ensuring the sustainable development of wildlife habitats.

• It also advises the central government on matters related to the protection of wildlife under the Wildlife Protection Act, 1972.

• Other National Parks Mentioned:

• Manas National Park: Located in Assam, it is a UNESCO World Heritage Site known for its biodiversity, including tigers, elephants, and golden langurs.

• Kanha National Park: Situated in Madhya Pradesh, it is famous for its tiger reserves and the reintroduction of the barasingha (swamp deer).

• Silent Valley National Park: Located in Kerala, it is known for its tropical rainforests and is home to the endangered lion-tailed macaque.

Important Points

• Wildlife Protection Act, 1972: This act provides the framework for the protection of endangered species and the regulation of wildlife sanctuaries and national parks in India.

• Conservation Programs: Several initiatives, such as Project Tiger and Project Lion, are dedicated to conserving India's iconic wildlife species.

• Asiatic Lions: Unlike African lions, Asiatic lions are smaller and have a distinct fold of skin along their bellies. They are exclusively found in Gir National Park.

• Environmental Significance: National parks like Gir play a crucial role in maintaining ecological balance and promoting biodiversity in India.

Q86. Answer: (b) Amitav Ghosh

The correct answer is Amitav Ghosh.

Key Points

• 'The Shadow Lines' is a novel authored by Amitav Ghosh, a prominent Indian writer, and was first published in 1988.

• The novel is a significant work of Indian English literature and has won the Sahitya Akademi Award in 1989, one of India's highest literary honors.

• The book explores themes of nationalism, identity, partition, and memory, focusing on the interconnected histories of two families across India, Bangladesh, and England.

• The narrative is a mix of personal and political histories, showcasing how historical events such as the partition of Bengal and communal riots impact individual lives.

• Amitav Ghosh is known for his deep engagement with historical and cultural themes, and 'The Shadow Lines' is one of his most celebrated works, reflecting his storytelling prowess.

Additional Information

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• Amitav Ghosh:

• Amitav Ghosh is an internationally acclaimed Indian author born on 11 July 1956 in Kolkata, India.

• He is well-known for his works of historical fiction that blend cultural narratives with colonial and post-colonial themes.

• Some of his other notable works include 'The Glass Palace' (2000), 'The Hungry Tide' (2004), and the Ibis Trilogy ('Sea of Poppies', 'River of Smoke', and 'Flood of Fire').

• In 2019, he was honored with the Jnanpith Award, India's highest literary award.

• About 'The Shadow Lines':

• The novel's title, 'The Shadow Lines', refers to the invisible boundaries—physical, cultural, and emotional—that shape human lives.

• It is structured as a non-linear narrative, where past and present events are intertwined, creating a complex tapestry of memories.

• The book delves into the repercussions of the Partition of India (1947) and the communal riots in Calcutta (Kolkata) and Dhaka.

• It also critiques the notions of nationalism and identity, portraying their fragility and the subjective nature of history.

• Other Options:

• Hari Kunzru: He is an Indian-origin British author known for works like 'The Impressionist' (2002), but he is not associated with 'The Shadow Lines'.

• Pankaj Mishra: A contemporary Indian essayist and novelist, his notable works include 'The Romantics' (1999). He has not authored 'The Shadow Lines'.

• Vikram Chandra: An Indian author famous for his novel 'Sacred Games' (2006), which inspired the Netflix series of the same name. He is not the author of 'The Shadow Lines'.

• Important Themes in 'The Shadow Lines':

• Partition and Communal Violence: The book critically examines the impact of the Partition of India and communal riots on individuals and families.

• Memory and Identity: It emphasizes how memory shapes personal and collective identities, transcending geographical and temporal boundaries.

• Nationalism and Borders: The novel questions the significance of borders and highlights the arbitrary nature of national divisions.

• Interconnected Histories: It portrays the interconnectedness of personal and historical events across generations and geographies.

Q87. Answer: (a) Godan

The correct answer is Godan.

Key Points

• Godan, written by Munshi Premchand, is one of the most celebrated Hindi novels that portrays the struggles of Indian peasants.

• The novel, published in 1936, is regarded as a masterpiece in Hindi literature and showcases the socio-economic conditions of rural India during the pre-independence era.

• The central character, Hori Mahato, is a poor farmer who struggles with poverty, exploitation, and societal pressures, reflecting the plight of the Indian peasantry.

• The title "Godan" translates to "The Gift of a Cow," symbolizing the social and religious obligation of gifting a cow, which plays a central role in the story.

• The novel critically examines the feudal system, caste hierarchy, and indebtedness that dominated rural India, making it a significant commentary on the socio-political landscape of the time.

Additional Information

• About Munshi Premchand:

• Munshi Premchand, born as Dhanpat Rai Srivastava in 1880, is widely regarded as one of the greatest writers in Hindi and Urdu literature.

• He is known for his realistic portrayal of the lives of common people, especially the oppressed and marginalized sections of society.

• Some of his other notable works include Nirmala, Gaban, Rangbhoomi, and Karmabhoomi.

• Other Options Explained:

• Kurukshetra: A novel by Ramdhari Singh 'Dinkar', focusing on the moral and philosophical aspects of the Mahabharata war.

• Gunjan: Not written by Premchand; it is unrelated to the theme of rural life.

• Urvashi: A famous poem by Ramdhari Singh 'Dinkar' that deals with themes of love and spirituality.

• Significance of Godan:

• Godan is considered a pivotal work in Hindi literature, often referred to as a reflection of pre-independence rural India.

• The novel highlights issues like landlord oppression, social customs, indebtedness, and poverty, making it a socio-political

critique of its time.

• Its realistic depiction of rural life and characters has earned it a timeless appeal, and it has been translated into multiple languages worldwide.

• Important Points:

• The novel is often studied in academic curriculums for its literary merit and historical relevance.

• It sheds light on the impact of colonial policies on Indian agriculture and rural communities.

• Godan has been adapted into films, plays, and television series, further cementing its place as a cultural and literary icon.

Q88. Answer: (a) Odisha

The correct answer is Odisha.

Key Points

• The Jagannath Temple is located in Puri, Odisha, and is one of the most significant Hindu temples dedicated to Lord Jagannath (a form of Lord Vishnu).

• It was constructed by Ananta Varman Chodaganga Deva, a famous king of the Eastern Ganga Dynasty, in the 12th century.

• This temple is a part of the Char Dham pilgrimage, which also includes Badrinath, Dwarka, and Rameswaram, making it one of the holiest sites for Hindus.

• The temple is renowned for its annual Rath Yatra (Chariot Festival), where the deities are taken out on massive, intricately decorated chariots, attracting millions of devotees.

• The architecture of the temple is a classic example of the Kalinga style and reflects the rich cultural heritage of Odisha.

Additional Information

• The Jagannath Temple:

• This temple is dedicated to a trinity of deities: Lord Jagannath, Lord Balabhadra (his elder brother), and Goddess Subhadra (his sister).

• It is believed to be a sacred site that has existed for over 800 years and continues to be an important center of religious and cultural activities.

• The temple's main sanctum, or the Vimana, is about 214 feet high and dominates the skyline of Puri.

• The temple is famous for its Mahaprasad (sacred food offering), which is prepared in earthen pots and is unique in taste and tradition.

• The Eastern Ganga Dynasty:

• The Eastern Ganga Dynasty ruled parts of present-day Odisha and Andhra Pradesh from the 11th to 15th centuries.

• They were patrons of art, culture, and architecture, with the Jagannath Temple being one of their most notable constructions.

• The dynasty was instrumental in promoting Vaishnavism and Hindu culture in the region.

• Key Features of the Kalinga Style Architecture:

• It features a distinctive curvilinear spire (Shikhara) and exquisite carvings on the walls and pillars.

• Temples built in this style often have a Jagamohana (assembly hall), Nata Mandir (dance hall), and Bhoga Mandap (offering hall).

• The use of locally available laterite and sandstone is a hallmark of this architectural style.

• Rath Yatra:

• The Rath Yatra is one of the largest religious festivals in India, where the deities are placed on grand chariots and pulled by devotees through the streets.

• This festival symbolizes the annual journey of Lord Jagannath along with his siblings to their aunt's house.

• The chariots, made afresh every year, are massive and require thousands of people to pull them.

Q89. Answer: (a) Rajasthan

The correct answer is Rajasthan.

Key Points

• Nagaur Fair, also known as the Cattle Fair of Nagaur, is one of the largest cattle fairs in Rajasthan.

• It is celebrated annually in the town of Nagaur, which is located in the northwestern region of Rajasthan.

• The fair primarily revolves around the trading of animals such as cows, camels, horses, and bullocks. Farmers and traders come from across the country to participate.

• In addition to the cattle trading, the fair features traditional Rajasthani cultural activities, including folk music, dances, and sports competitions like tug-of-war and camel races.

• The Nagaur Fair typically takes place in the months of January or February, attracting tourists and visitors due to its vibrant display of Rajasthani heritage and culture.

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Additional Information

• Location:

• The town of Nagaur is situated in the state of Rajasthan, India. It is well-connected by road and rail networks, making it accessible for visitors.

• Rajasthan, being a desert state, is famous for its fairs and festivals that celebrate its rich cultural heritage and rural economy.

• Significance:

• The Nagaur Fair reflects the importance of livestock in rural economies in India, especially in Rajasthan.

• It is a major event for farmers and traders to exchange and trade high-quality livestock.

• The fair also serves as a platform for showcasing Rajasthani arts and crafts, local cuisines, and traditions.

• Cultural Activities:

• Alongside cattle trading, the fair features competitions like bullock races, tug-of-war, camel races, and local sports.

• Folk performances such as Kalbelia dances and traditional music are a key highlight, attracting tourists from around the world.

• Other Fairs in Rajasthan:

• The Pushkar Fair is another prominent cattle fair held in Rajasthan, known for its camel trading and cultural events.

• The Desert Festival in Jaisalmer showcases the desert culture of Rajasthan with camel races and folk performances.

• These fairs are not only economic events but also major tourist attractions, contributing to the state's economy.

• Important Points

• The Nagaur Fair is organized under the guidance of local authorities and supported by the Rajasthan Tourism Department to promote tourism.

• It is a prime example of how traditional fairs and festivals contribute to preserving cultural heritage while supporting rural livelihoods.

• The fair also includes stalls selling handmade goods, textiles, jewelry, and agricultural equipment, giving artisans and small businesses a platform to showcase their products.

Q90. Answer: (a) Jaipur

The correct answer is Jaipur.

Key Points

• Hawa Mahal, also known as the "Palace of Winds," is located in Jaipur, the capital city of the state of Rajasthan in India.

• The palace was built in 1799 by Maharaja Sawai Pratap Singh, a ruler of Jaipur, and designed by architect Lal Chand Ustad.

• It is a five-story building with 953 small windows, also known as "jharokhas," adorned with intricate latticework.

• The primary purpose of the Hawa Mahal was to allow the royal women to observe everyday life and festivals on the street below without being seen, adhering to the purdah system.

• The structure is made of red and pink sandstone and reflects a blend of Rajput and Mughal architectural styles.

Additional Information

• Architectural Significance of Hawa Mahal:

• The Hawa Mahal is shaped like the crown of Lord Krishna, as Maharaja Sawai Pratap Singh was a devotee of Lord Krishna.

• The latticework on the windows allows cool air to pass through, making the palace an early example of passive cooling in architecture.

• The building lacks a foundation, but it stands upright due to its curved structure and strong design principles.

• Tourism and Cultural Value:

• The Hawa Mahal is one of the most visited tourist destinations in Jaipur and a significant part of the Golden Triangle (Delhi, Jaipur, and Agra) tourism circuit.

• It houses a small museum showcasing artifacts and relics from the royal era, providing insight into the history and culture of Rajasthan.

• Other Names and Titles:

• The Hawa Mahal is often called the "Palace of Winds" or "Palace of Breezes" due to its unique design that facilitates continuous airflow.

• Comparison with Other Cities (Options):

• Ajmer: Known for the Ajmer Sharif Dargah, it is a historical and religious site but does not house the Hawa Mahal.

• Alwar: Famous for the Sariska Tiger Reserve and Alwar Fort, it is not related to the Hawa Mahal.

• Sikar: Known for its havelis and fresco paintings, Sikar does not have the Hawa Mahal.

• Important Points:

• The Hawa Mahal is part of the City Palace complex and is located near other iconic landmarks such as the Jantar Mantar and the Amber Fort.

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• It was constructed during the reign of the Kachhwaha Rajput dynasty and remains a symbol of the rich heritage and culture of Rajasthan.

Q91. Answer: (a) Mahalaya

The correct answer is Mahalaya.

Key Points

• Mahalaya marks the beginning of the Durga Puja festival in West Bengal. It is a significant cultural and religious event observed with great enthusiasm.

• It occurs seven days before the actual festivities of Durga Puja and is celebrated during the Amavasya (new moon) of the Hindu month of Ashwin.

• On this day, the ritual of Chokkhu Daan is performed, where the eyes of the Durga idol are painted, symbolizing the awakening of the goddess.

• Mahalaya is associated with the invocation of Goddess Durga and marks the commencement of her journey from Mount Kailash to Earth with her children.

• The day is most famous for the early morning recitation of the Mahishasuramardini Stotra, which narrates the story of the goddess defeating the demon Mahishasura.

Additional Information

• Durga Puja Festival:

• Durga Puja is celebrated primarily in West Bengal, Odisha, Bihar, Assam, Tripura, and other parts of eastern India.

• The festival spans over a period of ten days, culminating with the immersion of the Durga idols on Dashami (Vijaya Dashami).

• It is a celebration of the victory of good over evil, symbolized by Goddess Durga's triumph over the demon Mahishasura.

• Durga Puja involves elaborate rituals, artistic decorations, cultural programs, and community feasts.

• Significance of Mahalaya:

• Mahalaya is considered the day of Pitru Paksha, where people pay homage to their ancestors through rituals known as tarpan.

• It is believed that on Mahalaya, the ancestors bless their descendants, and families offer prayers and food to them.

• The spiritual hymn Mahishasuramardini, composed by Birendra Krishna Bhadra, is broadcasted on various media channels early in the morning.

• Other Durga Puja Days:

• Navami: Celebrated as the ninth day of Durga Puja, it involves special rituals and prayers to Goddess Durga.

• Dashami: Known as Vijaya Dashami, this marks the end of Durga Puja when idols are immersed in water, symbolizing the departure of the goddess.

• Poila Baishakh: While not related to Durga Puja, it is the Bengali New Year celebrated in April.

Important Points

• Mahalaya's Cultural Impact:

• Mahalaya signifies the arrival of Goddess Durga to Earth and is celebrated with immense devotion and enthusiasm.

• It is a day of artistic expression, where idol makers finalize the Durga idols by painting the eyes.

• People wake up early to listen to spiritual hymns and chants, which set the tone for the upcoming festivities.

Q92. Answer: (c) Uttarakhand

The correct answer is Uttarakhand.

Key Points

• Pandava Dance is a traditional folk dance performed in the state of Uttarakhand, especially during Dussehra and Diwali.

• This dance form is inspired by the epic tale of the Mahabharata, particularly focusing on the stories of the five Pandavas.

• The dance is conducted to narrate mythological tales and is deeply rooted in the Garhwali and Kumaoni culture of Uttarakhand.

• The performers use traditional instruments such as drums and cymbals to enhance the storytelling, making it a lively and engaging experience.

• Pandava Dance is a significant part of the festive traditions and showcases the cultural richness of Uttarakhand.

Additional Information

• Other Cultural Dances of Uttarakhand:

• Choliya Dance: A martial art-based dance performed by the Kumaoni Rajputs.

• Barada Nati: Famous in the Jaunsar-Bawar region, performed during weddings and celebrations.

• Langvir Nritya: A traditional acrobatic dance, predominantly performed by males.

• Festivals in Uttarakhand:

• Kumaoni Holi: Known for its musical gatherings and unique style of celebration.

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• Harela: Celebrated to mark the beginning of the sowing season in July.
• Diwali: Apart from traditional celebrations, Pandava Dance forms a key part of the festivities.
• Geography of Uttarakhand:
• Located in the northern part of India, it is known for its Himalayan landscapes.
• The state comprises two regions: Garhwal and Kumaon.
• Uttarakhand is famous for its religious sites, including Kedarnath, Badrinath, Haridwar, and Rishikesh.
• Historical Background:
• Uttarakhand was carved out of Uttar Pradesh in the year 2000.
• The state is known as the Land of Gods due to its many pilgrimage sites.

Important Points

• Pandava Dance and Epic Connection:
• The dance represents the tales of Mahabharata, portraying the valor and struggles of the Pandava brothers.
• It serves as a medium to connect the present generation with the rich mythological and cultural heritage of India.
• Significance in Uttarakhand's Culture:
• Pandava Dance is not just a performance but also a form of devotional practice.
• It reflects the spiritual connection of the people with their ancestors and mythological heroes.

Q93. Answer: (c) Nagaland

The correct answer is Nagaland.

Key Points

• Monyoasho is a traditional folk dance form practiced in the northeastern state of Nagaland, India.
• This dance is performed during the Moatsu Festival, which is celebrated annually by the Ao tribe of Nagaland in the month of May.
• The dance serves as a medium to express joy, gratitude, and cultural pride, marking the end of the sowing season and a time for relaxation and festivities.
• It is characterized by vibrant costumes, rhythmic movements, and traditional music, reflecting the rich cultural heritage of the Nagaland tribes.
• The Moatsu Festival and the Monyoasho dance highlight the community spirit and the importance of preserving indigenous traditions and practices.

Additional Information

• Nagaland:
• Nagaland is a northeastern state of India, known for its diverse tribal culture and traditions.
• The state is home to 16 major tribes, each with its own unique customs, festivals, and dance forms.
• Festivals in Nagaland are often linked to agricultural practices, showcasing the tribal people's connection with nature.
• Other significant festivals include the Hornbill Festival, celebrated in December, which promotes the culture and traditions of all tribes in the state.
• Moatsu Festival:
• The Moatsu Festival is celebrated by the Ao tribe of Nagaland to mark the completion of sowing crops and preparation of the fields.
• It involves various rituals, including folk dances, songs, and storytelling, to thank the deities for a good harvest.
• The festival fosters community bonding and showcases the Ao tribe's rich cultural heritage.
• Traditional Dance Forms in India:
• India is known for its diverse folk dances, each representing the cultural identity of its region.
• Examples include Garba from Gujarat, Bihu from Assam, and Ghoomar from Rajasthan.
• These dances are often performed during festivals, celebrations, and social gatherings, highlighting the traditions and lifestyles of different communities.
• Preservation of Tribal Culture:
• Efforts to preserve tribal culture include government initiatives, cultural festivals, and educational programs.
• Promoting tribal arts, crafts, and performances helps sustain the cultural identity and traditions of indigenous communities.

Q94. Answer: (c) Because it has the highest energy output per kilogram.

The correct answer is Because it has the highest energy output per kilogram.

Key Points

• Hydrogen is widely used as a fuel in cryogenic engines because it has the highest energy output per kilogram. This makes it an extremely efficient fuel source, especially for applications like space exploration where energy density is crucial.

• With a specific energy of approximately 142 MJ/kg, hydrogen far exceeds the energy output of conventional fuels like gasoline or kerosene.

• In cryogenic engines, hydrogen is used in its liquid form (liquid hydrogen or LH2), which requires extremely low temperatures (-253°C) to remain in a liquid state. This enhances its energy density and usability in such applications.

• Other properties of hydrogen, such as its low molecular weight and ability to produce only water as a by-product when burned with oxygen, make it an environmentally friendly and efficient option for cryogenic engines.

• The use of hydrogen as a fuel is particularly significant in the aerospace industry, where it powers rockets like the Space Shuttle Main Engine (SSME) and other advanced propulsion systems.

Additional Information

• Hydrogen as a Fuel:

• Hydrogen is the lightest and most abundant element in the universe. It is an excellent fuel source because it has a high energy-to-weight ratio, making it ideal for applications like rockets and spacecraft.

• When burned with oxygen, hydrogen produces only water vapor, making it a clean and environmentally friendly fuel.

• Hydrogen fuel is stored in a liquid state at cryogenic temperatures to maximize energy density and minimize storage volume.

• Cryogenic Engines:

• A cryogenic engine is a type of rocket engine that uses cryogenic fuels such as liquid hydrogen (LH2) and liquid oxygen (LOX) as propellants.

• These engines operate at extremely low temperatures to ensure the fuels remain in their liquid state, as this is required for efficient combustion and energy output.

• Examples of vehicles using cryogenic engines include the Saturn V rocket and the GSLV Mk III developed by the Indian Space Research Organisation (ISRO).

• Comparison with Other Fuels:

• Unlike conventional fuels like kerosene or methane, hydrogen has significantly higher energy output per kilogram, making it more suitable for applications where minimizing weight is critical.

• While kerosene and methane are easier to handle and store at higher temperatures, their energy density is lower, leading to the need for larger storage tanks.

• Challenges of Using Hydrogen:

• Hydrogen is difficult to store and transport due to its extremely low boiling point and the need for cryogenic temperatures.

• It is also highly flammable, requiring advanced safety measures for handling and usage.

Important Points

• Applications of Cryogenic Engines:

• Cryogenic engines are used in space exploration and satellite launches, where high energy and thrust are required to escape Earth's gravity.

• They are a key component of launch vehicles like the Space Shuttle and Ariane rockets.

• Environmental Impact:

• Hydrogen is a clean fuel with no harmful by-products, making it a sustainable choice for future energy needs.

• Efforts are underway to produce hydrogen through green methods, such as electrolysis powered by renewable energy sources.

Q95. Answer: (c) Both I and II

The correct answer is Both I and II.

Key Points

• Statement I: Chandrayaan-1 was the first lunar mission of India. It was launched on 22 October 2008 by the Indian Space Research Organisation (ISRO). This mission marked India’s entry into the elite group of nations capable of lunar exploration. Hence, statement I is correct.

• Statement II: Chandrayaan-1 played a pivotal role in confirming the presence of water molecules on the Moon. The Moon Mineralogy Mapper (M3), an instrument onboard the spacecraft developed by NASA, detected hydroxyl and water molecules on the lunar surface. This was a groundbreaking discovery. Hence, statement II is correct.

• The mission was designed to study the Moon in detail, including its surface composition, mineralogy, and presence of water ice. It successfully orbited the Moon and provided valuable data for future lunar missions.

• The spacecraft carried a total of 11 scientific instruments, including payloads from international space agencies such as NASA and ESA, making it a collaborative effort.

• The mission lasted for 312 days (until August 2009) and was deemed a major success despite the early termination due to loss of contact with the spacecraft.

Additional Information

• Chandrayaan-1 Mission Details:

• The spacecraft was launched using the Polar Satellite Launch Vehicle (PSLV-C11), a trusted launch vehicle developed by ISRO.

• The spacecraft weighed 1380 kg and was designed to orbit the Moon at an altitude of approximately 100 km.

• Key scientific objectives included mapping the Moon's surface, studying its mineral composition, and searching for water ice in the permanently shadowed regions of the lunar poles.

• Chandrayaan-1 carried the Moon Impact Probe (MIP), which was deliberately crashed onto the lunar surface to study its composition and confirm the presence of water molecules.

• International Collaboration:

• Chandrayaan-1 was a testament to India’s growing capabilities in space exploration and its collaborative approach.

• The mission involved instruments like the Moon Mineralogy Mapper (M3) from NASA and the Sub-kiloelectronvolt Atom Reflecting Analyzer (SARA) from ESA.

• This partnership highlighted India’s readiness to contribute to global scientific endeavors.

Q96. Answer: (c) Both I and II

The correct answer is Both I and II.

Key Points

• Statement I: Fluid friction is also called a drag.

• This statement is correct.

• Drag refers to the resistance force experienced by an object when it moves through a fluid (liquid or gas).

• This resistance arises because of the viscosity of the fluid and the interaction between the object's surface and the fluid molecules.

• Statement II: Fluid friction depends on the speed of the object with respect to the fluid.

• This statement is correct.

• The drag force increases with the speed of the object moving through the fluid. For instance, at higher speeds, the resistance force becomes significantly greater.

• Drag is proportional to the square of the velocity (in most cases) for objects moving through fluids.

• Additional Factors Affecting Fluid Friction:

• The shape of the object: Streamlined shapes reduce drag, while irregular shapes increase it.

• The nature of the fluid: Fluids with higher viscosity cause higher drag.

• The surface area of the object: Larger surface areas in contact with the fluid result in higher drag.

• Conclusion: Both statements I and II are correct as they describe fundamental characteristics of fluid friction.

Additional Information

• Fluid Friction:

• It is the resistance force exerted by a fluid (liquid or gas) on an object moving through it.

• Examples include air resistance experienced by a car or plane and water resistance faced by a swimmer or boat.

• Types of Drag:

• Skin Friction Drag: Caused by the interaction of the fluid with the surface of the object.

• Form Drag: Results from the shape and size of the object moving through the fluid.

• Wave Drag: Occurs when an object moves through a fluid, causing waves (common in water).

• Applications of Fluid Friction:

• Designing vehicles (cars, airplanes, ships) to minimize drag using streamlined shapes.

• Development of sports equipment like swimsuits and racing bicycles to reduce resistance.

• Environmental considerations in reducing drag to improve fuel efficiency.

• Important Points:

• Fluid friction is influenced by factors like speed, viscosity, and surface roughness.

• Minimizing drag is crucial in industries like automotive, aerospace, and shipping to enhance performance and reduce energy consumption.

Q97. Answer: (d) IIIT Pune and NIT Raipur

The correct answer is IIIT Pune and NIT Raipur.

Key Points

• IIIT Pune and NIT Raipur received funding of Rs. 4.2 crore in 2025 to develop next-generation digital forensic tools, aimed at

enhancing capabilities in addressing cybercrime and digital fraud.

• The initiative is part of a government project to strengthen digital forensic research and development and empower law enforcement agencies with advanced tools.

• Digital forensic tools are crucial for investigating and analyzing cybersecurity incidents, including hacking, data breaches, and online fraud.

• The collaboration between IIIT Pune and NIT Raipur highlights the role of premier institutes in contributing to innovative technological solutions.

• The funding is expected to bolster efforts in creating indigenous forensic software and tools, reducing dependency on foreign technologies.

Additional Information

• IIIT Pune:

• Established in 2016, IIIT Pune is known for its focus on Information Technology and computer-related education.

• Located in Pune, Maharashtra, it actively engages in research projects related to data science, cybersecurity, and AI technologies.

• It has strong collaborations with industries and government bodies for applied research and development.

• NIT Raipur:

• Founded in 1956, NIT Raipur is one of the oldest National Institutes of Technology in India.

• Situated in Raipur, Chhattisgarh, the institute specializes in engineering and technology-focused education.

• NIT Raipur has a dedicated focus on technological innovation and hosts research projects funded by governmental and international organizations.

• Digital Forensics:

• Digital forensics is the process of investigating and analyzing digital devices to uncover evidence of cybercrime or digital misconduct.

• It involves examining data storage devices, networks, and systems to detect anomalies or unauthorized activities.

• Applications include addressing identity theft, online fraud, and investigating hacking incidents.

• Government Initiatives for Cybersecurity:

• The Indian government has launched several programs to strengthen cybersecurity infrastructure, including Cyber Swachhta Kendra and National Cyber Coordination Centre.

• Promoting indigenous technology development is a key focus to ensure national security in the cyber domain.

Important Points

• Funding:

• The allocation of Rs. 4.2 crore is part of a broader effort to promote research and development in emerging technology sectors.

• Such funding enables institutes to develop tools that can be used by law enforcement agencies to counter advanced cyber threats.

• Indigenous Development:

• Creating indigenous tools reduces reliance on imported technologies, ensuring data privacy and national security.

• It also fosters skill development and innovation within the country.

• Role of Institutes:

• Premier institutes like IIIT Pune and NIT Raipur play a vital role in driving technological advancements and contributing to national development.

Q98. Answer: (b) Secondary

The correct answer is Secondary Sector.

Key Points

• The Secondary Sector of the economy involves processing and manufacturing activities. Extraction of oil from groundnut falls under this category as it involves converting raw groundnuts into edible oil.

• The Secondary Sector includes industries such as manufacturing, construction, and processing. Groundnut oil extraction is a processing activity, where raw materials are transformed into finished goods.

• This activity does not belong to the Primary Sector, which focuses on the direct extraction of natural resources (e.g., agriculture, fishing, mining). Groundnut harvesting belongs to the Primary Sector, while oil extraction belongs to the Secondary Sector.

• The Quaternary Sector involves intellectual activities like research, development, and information technology, which are unrelated to oil extraction processes. Hence, it is not relevant here.

• The Quinary Sector is related to high-level decision-making roles in government, academia, or business, which again does not apply to the extraction of oil from groundnuts.

Additional Information

• Primary Sector:
• Activities involve the direct extraction of natural resources, such as farming, fishing, forestry, and mining.
• Examples include growing groundnuts, mining iron ore, or catching fish.
• This sector is heavily dependent on natural conditions like soil quality, climate, and water availability.
• It plays a foundational role in an economy, often supporting other sectors.
• Secondary Sector:
• Involves the manufacturing and industrial processing of raw materials into finished goods.
• Examples include the extraction of oil from groundnuts, production of steel from iron ore, and textile manufacturing.
• This sector adds value to raw materials and contributes significantly to economic growth and industrialization.
• Requires specialized machinery and skilled labor for efficient operation.
• Quaternary Sector:
• Includes services related to knowledge, information processing, and research.
• Examples include IT services, data analysis, scientific research, and consultancy.
• Plays a key role in innovation and technological advancement.
• This sector typically employs highly educated professionals.
• Quinary Sector:
• Involves high-level decision-making activities such as government roles, academic leadership, and corporate executives.
• Examples include policymakers, CEOs, and university presidents.
• Focused on societal leadership and strategic planning.
• Represents the apex of the economic activity hierarchy, contributing to overall governance and development.
• Important Points:
• The classification of economic sectors helps in understanding the flow of goods and services, employment trends, and economic activities.
• While the Primary Sector provides raw materials, the Secondary Sector processes them to create consumable products.
• The Quaternary and Quinary Sectors are essential for knowledge and decision-making, driving innovation and governance.

Q99. Answer: (b) 3640

The correct answer is 3640 km.

Key Points

• The East-West Corridor is a part of the Golden Quadrilateral project and was initiated by the Government of India to improve connectivity across the country.
• The total length of the East-West Corridor is approximately 3640 km, connecting Silchar in Assam (East) to Porbandar in Gujarat (West).
• It is designed to provide better road connectivity between the eastern and western regions of India, enhancing trade, travel, and economic growth.
• The project is implemented by the National Highways Authority of India (NHAI) under the supervision of the Ministry of Road Transport and Highways.
• It is a part of the larger National Highways Development Project (NHDP), which also includes the North-South Corridor and the Golden Quadrilateral.

Additional Information

• National Highways Development Project (NHDP):
• The NHDP is the largest highway project undertaken by the Government of India and includes the development of approximately 50,000 km of roadways.
• It has multiple components such as the Golden Quadrilateral, North-South and East-West Corridors, and other state highway projects.
• The project aims to ensure smoother connectivity between major cities, towns, and ports in India, contributing to the country's economic development.
• Golden Quadrilateral:
• The Golden Quadrilateral connects the four major cities of India: Delhi, Mumbai, Kolkata, and Chennai.
• It spans approximately 5,846 km and forms a quadrilateral-shaped network of highways, facilitating smooth transportation across the country.
• North-South Corridor:
• The North-South Corridor runs from Srinagar (Jammu and Kashmir) in the north to Kanyakumari (Tamil Nadu) in the south.
• The total length of this corridor is approximately 4,000 km.

• Significance of the East-West Corridor:

• It enhances interconnectivity between the eastern and western regions of India, especially in terms of economic activities and trade.

• It helps in reducing travel time for long-distance journeys and improves the overall efficiency of transportation.

• It promotes regional development and connects major cities, towns, and industrial hubs along the route.

Important Points

• Funding and Execution:

• The East-West Corridor and other NHDP projects are funded through a mix of budgetary allocations, private sector participation, and international financial institutions like the World Bank and the Asian Development Bank.

• The project is executed by NHAI and involves collaboration with state governments for land acquisition and other requirements.

• Economic Impact:

• Improved road connectivity has led to a significant boost in economic activities, particularly in sectors like logistics, tourism, and agriculture.

• The corridors have also facilitated better access to markets, reducing transportation costs and improving the supply chain efficiency.

Q100. Answer: (c) To prevent the mixing of oxygen-rich blood with carbon dioxide-rich blood

The correct answer is To prevent the mixing of oxygen-rich blood with carbon dioxide-rich blood.

Key Points

• The human heart has four chambers: two atria (upper chambers) and two ventricles (lower chambers). This structural arrangement is crucial for maintaining the separation of oxygenated and deoxygenated blood.

• The right atrium and right ventricle of the heart receive and pump deoxygenated blood to the lungs for oxygenation, while the left atrium and left ventricle receive and pump oxygenated blood to the rest of the body.

• This separation of chambers ensures the prevention of mixing between oxygen-rich (from the lungs) and carbon dioxide-rich blood (from the body tissues), which is essential for efficient oxygen delivery to tissues and organs.

• Efficient oxygenation is vital for cellular respiration, which is the process by which cells generate energy. Proper separation of blood types maximizes the efficiency of this process.

• In organisms with a four-chambered heart, such as humans, this system supports the higher metabolic rates required by endothermic (warm-blooded) animals. This adaptation is crucial for maintaining a constant body temperature and supporting high energy needs.

Additional Information

• The Structure of the Heart:

• The human heart is a muscular organ located slightly left of the center in the chest cavity. It is about the size of a clenched fist and functions as a pump to circulate blood.

• The four chambers include the right atrium, right ventricle, left atrium, and left ventricle, separated by valves and septa.

• The septum is a wall of tissue dividing the right and left sides of the heart, preventing the mixing of oxygenated and deoxygenated blood.

• Function of Heart Chambers:

• The right atrium receives deoxygenated blood from the body through veins like the superior and inferior vena cava.

• The right ventricle pumps this deoxygenated blood to the lungs for oxygenation through the pulmonary artery.

• The left atrium receives oxygenated blood from the lungs via the pulmonary veins.

• The left ventricle pumps oxygen-rich blood to the entire body through the aorta, the largest artery in the body.

• Importance of Preventing Blood Mixing:

• Mixing of oxygenated and deoxygenated blood would reduce the efficiency of oxygen delivery to body tissues, affecting cellular energy production.

• Conditions such as congenital heart defects (e.g., septal defects) can cause mixing of blood and lead to reduced oxygen levels in the blood, resulting in fatigue and other health complications.

• Comparison with Other Organisms:

• Organisms like amphibians and reptiles typically have a three-chambered heart, where some mixing of blood occurs. This limits their metabolic rate compared to mammals and birds.

• Mammals and birds, with their four-chambered hearts, have higher metabolic rates, supporting complex behaviors and activities.

• Applications in Medicine:

• Understanding the heart's function helps in diagnosing and treating heart conditions like heart valve diseases, arrhythmias, and congenital defects.

• Medical advances like pacemakers, heart transplants, and artificial valves are based on the detailed understanding of heart

structure and function.

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