



APTI PLUS

Academy for Civil Services Pvt. Ltd.

CREATING CIVIL SERVANTS FOR THE NATION

ANSWER KEYS & EXPLANATION OAS PRELIMS 2025

GS-II

1. Answer : (C) 279

Explanation : Pages 1–9 → $9 \times 1 = 9$ digits. Pages 10–99 → $90 \times 2 = 180$ digits. Pages 100–129 → $30 \times 3 = 90$ digits. Total = $9 + 180 + 90 = 279$.

2. Answer : (D) ₹1,680

Explanation : Required SP = $1260 \times 1.12 = ₹1,411.20$. Since SP = 84% of MP, MP = $1411.20 \div 0.84 = ₹1,680$.

3. Answer : (C) The margin on the page was insufficient to write it down

Explanation : Fermat's own note states that he had a marvellous proof but the margin was too narrow to contain it. The passage gives no other reason.

4. Answer : (B) It was neither the first nor the last he proposed, but it was the final one to be resolved

Explanation : The passage closes by saying the theorem was not the last that Fermat conjectured, but it was the last to be proven. Hence it was final only in order of resolution, not of proposition.

5. Answer : (C) One is easily proven with multiple methods while the other required advanced techniques

Explanation : The Pythagorean theorem is described as having infinite solutions and hundreds of proofs, whereas Fermat's variation resisted proof for 357 years and finally needed the very deep methods of Andrew Wiles. The contrast is one of provability, not of antiquity.

6. Answer : (B) All of Fermat's other conjectures were successfully resolved within approximately 200 years of his death

Explanation : The passage states that all the other theorems proposed by Fermat were eventually proven or disproven in the two centuries following their proposition. Only the Last Theorem remained open.

7. Answer : (C) Marketing

Explanation : Salaries 42→58 ≈ 38.1%; Raw material 65→91 = 40.0%; Marketing 12→22 ≈ 83.3%; Overheads 23→30 ≈ 30.4%. Marketing shows the steepest rise.

8. Answer : (A) 93 : 67

Explanation : From the Total column: R&D = 93 and Marketing = 67. The ratio 93 : 67 has no common factor and cannot be reduced.

9. Answer : (A) J

Explanation : L is at the extreme right, so L = 5 and K = 4 (K is next to L). N is not next to K, so $N \in \{1, 2\}$. J and M must be adjacent, which is possible only if $N = 1$ and J, M occupy 2 and 3. Since J is not next to N, J = 3 and M = 2. Position 3, to M's right, is J.

10. Answer : (A) 2

Explanation : On folding the given net, the face with 3 dots and the face with 2 dots come to lie on opposite ends of the same axis; the remaining pairs are 1–6 and 4–5.

11. Answer : (C) Cousin

Explanation : P is the son of Q, and S is the son of R who is Q's sister. Children of a brother and sister are cousins.

12. Answer : (D) Niece

Explanation : Y is the maternal uncle of S, so Y is the brother of R. X is R's daughter, hence Y's niece.

13. Answer : (A) 15

Explanation : Total 70 teachers, 30 female, so 40 male. Married teachers = 30, of whom 15 are male; therefore married females = $30 - 15 = 15$. Unmarried females = $30 - 15 = 15$.

14. Answer : (A) 1/5

Explanation : $n(M \cup P) = 60 + 50 - 30 = 80$. Students studying neither = $100 - 80 = 20$. Probability =

$20/100 = 1/5$.

15. Answer : (A) Both (A) and (R) are true and (R) is the correct explanation of (A)

Explanation : 'Faster than' is a transitive relation, so X faster than Y and Y faster than Z gives X faster than Z. The reason states exactly this property and therefore explains the assertion.

16. Answer : (A) (P)-(iv), (Q)-(i), (R)-(iii), (S)-(ii)

Explanation : Zeno's paradox concerns Achilles and the tortoise and infinite divisibility; the Liar paradox is the self-referential 'this statement is false'; Russell's paradox involves the set of all sets not containing themselves; the Sorites paradox is the heap-of-grains problem of vagueness.

17. Answer : (A) Ram > Gopal > Shyam > Mohan > Hari

Explanation : Ram > Shyam, Shyam > Mohan, Ram > Gopal > Shyam, and Hari < Shyam. This fixes Ram > Gopal > Shyam, with Mohan and Hari both below Shyam. Only option (A) is consistent with every given condition.

18. Answer : (A) 220 m

Explanation : Initial fall 80 m; then up-and-down 40 m twice (80 m), 20 m twice (40 m) and 10 m twice (20 m). Total = 80 + 80 + 40 + 20 = 220 m.

19. Answer : (A) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

Explanation : Semantic barrier = technical legal jargon used with a rural farmer; Psychological barrier = a citizen paralysed by fear of authority; Physical barrier = a loud generator outside the office; Organisational barrier = rigid hierarchical rules blocking a clerk.

20. Answer : (B) Understand the speaker's cognitive and emotional perspective, and reflect that understanding back without immediate judgement

Explanation : Empathetic listening means accurately perceiving and reflecting the speaker's frame of reference. It does not require sharing the same distress, agreeing with every demand, or interrupting with one's own experiences.

21. Answer : (C) To allow the sender to determine if the message has been accurately received and decoded by the receiver

Explanation : Feedback closes the communication loop by returning the receiver's response to the sender, enabling verification and correction. Encoding initiates the process and noise is a barrier, not a function of feedback.

22. Answer : (C) Officially declare the conflict of interest in writing to superiors and recuse yourself from the committee

Explanation : Disclosure and recusal preserve both the integrity of the process and the public interest. Awarding the tender oneself, rejecting the bid reflexively at extra cost to the exchequer, or manipulating the bid are all improper.

23. Answer : (D) Her case is to be referred to VP, Marketing

Explanation : She meets I (56% graduation), III (7 years' experience), IV (62% in selection exam) and V (62% PG in marketing management). She fails only II, as her interview score is 38% (below 40%). Since she has secured at least 60% in the selection examination, exception (i) applies and the case goes to the VP, Marketing.

24. Answer : (B) He is not to be selected

Explanation : He satisfies I, II, III and V, but scored only 40% in the selection examination against the required 45%, failing condition IV. Neither exception covers a shortfall in condition IV, so he cannot be selected.

25. Answer : (B) Thursday

Explanation : If the day before yesterday was Friday, today is Sunday. The day after tomorrow is

Tuesday, and two days after Tuesday is Thursday.

26. Answer : (B) Adopting and amending the language used in existing anti-discrimination laws

Explanation : The passage says statutes prohibiting discrimination on the basis of handicapping conditions frequently borrowed language from racial, religious and gender discrimination laws, and that existing statutes were amended to add disability as a category.

27. Answer : (C) Some civil rights supporters feared it would dilute resources for their own cause

Explanation : The bills were defeated partly because supporters of black civil rights feared that attention and resources would be diverted from their cause.

28. Answer : (D) Age discrimination movements

Explanation : The passage names racial, religious and gender discrimination as the sources of borrowed language. Age discrimination is not mentioned.

29. Answer : (A) 1 : 1

Explanation : Let ₹x be lent at 3%. Then $(x \times 3 \times 3)/100 + ((1500 - x) \times 5 \times 3)/100 = 180$, i.e. $0.09x + 225 - 0.15x = 180$, giving $0.06x = 45$ and $x = 750$. The remaining ₹750 is at 5%, so the ratio is 1 : 1.

30. Answer : (C) 9

Explanation : For $n \geq 4$, $n!$ is divisible by 12 and contributes nothing to the remainder. So the remainder equals $(1 + 2 + 6) \bmod 12 = 9$.

31. Answer : (C) 5 kmph

Explanation : Let the stream speed be s . Then $12/(11 - s) + 12/(11 + s) = 11/4$. This gives $12 \times 22/(121 - s^2) = 11/4$, so $121 - s^2 = 96$ and $s^2 = 25$, i.e. $s = 5$ kmph.

32. Answer : (B) Product B

Explanation : A: $120 \rightarrow 200 \approx 66.7\%$; B: $90 \rightarrow 160 \approx 77.8\%$; C: $70 \rightarrow 120 \approx 71.4\%$. Product B records the largest percentage rise.

33. Answer : (D) 71.4%

Explanation : Q1 total = $120 + 90 + 70 = 280$ units; Q4 total = $200 + 160 + 120 = 480$ units. Increase = $200/280 \times 100 \approx 71.4\%$.

34. Answer : (C) 410 units

Explanation : Q3 figures are $A = 180$, $B = 130$ and $C = 100$, giving $180 + 130 + 100 = 410$ units.

35. Answer : (D) GOS

Explanation : First letters B, C, E, ?, K are the primes 2, 3, 5, 7, 11 $\rightarrow$ G. Second letters follow the vowels A, E, I, O, U $\rightarrow$ O. Third letters P, Q, R, ?, T advance by one $\rightarrow$ S. Hence GOS.

36. Answer : (C) S

Explanation : DISTURBANCE has 11 letters; interchanging $1 \leftrightarrow 11$, $2 \leftrightarrow 10$, $3 \leftrightarrow 9$, $4 \leftrightarrow 8$, $5 \leftrightarrow 7$ with the 6th fixed gives ECNABRUTSID. In this word T occupies the 8th place and is followed by S.

37. Answer : (B) 55

Explanation : The stack is a square pyramid of five layers containing 1, 4, 9, 16 and 25 cubes. The total is $1 + 4 + 9 + 16 + 25 = 55$.

38. Answer : (D) Option (D)

Explanation : Every mother is a female, so 'Mother' lies wholly within 'Female'. A doctor may or may not be female and may or may not be a mother, so the 'Doctor' circle must partly overlap the other classes rather than lie inside or outside them.

39. Answer : (B) 176

Explanation : The pattern is $\times 1 - 1$, $\times 2 - 2$, $\times 3 - 3$, $\times 4 - 4$: $10 \times 1 - 1 = 9$, $9 \times 2 - 2 = 16$, $16 \times 3 - 3 = 45$,

and $45 \times 4 - 4 = 176$.

40. Answer : (A) Arjun *

Explanation : The Commission's key is (A). On working, with Dinesh at one end, Bharat immediately left of Chetan, Arjun away from both ends and Eshaan not adjacent to Arjun, only two arrangements survive – D-A-B-C-E, where Bharat is in the middle, and E-B-C-A-D, where Chetan is in the middle. Arjun cannot occupy the middle at all, since that would push Dinesh and Eshaan to the two ends and leave Bharat and Chetan non-adjacent.

41. Answer : (B) Using active listening and acknowledging their emotional state without immediate judgement

Explanation : An agitated person must first be allowed to feel heard; premature solutions, assertions of authority or complete avoidance all escalate the situation. De-escalation precedes problem-solving.

42. Answer : (B) (i), (ii) and (iii) only

Explanation : Paralanguage covers the vocal but non-verbal features of speech – tone, pitch and volume, and rate of delivery. The specific vocabulary of an official memo is verbal content, not paralanguage.

43. Answer : (B) Continuing to pour public funds into a heavily failing infrastructure project simply because millions have already been spent on it

Explanation : The fallacy lies in treating irrecoverable past expenditure as a reason to continue, instead of judging the project on its expected future costs and benefits.

44. Answer : (D) (A) is false but (R) is true

Explanation : Intuition is not random guessing and it does have a recognised place in administration, so the assertion is false. The reason correctly describes intuition as subconscious processing of accumulated experience and pattern recognition, valuable especially in crises.

45. Answer : (A) A5

Explanation : S1 tells nothing about divisibility. S2 gives divisibility by 2 and 4, hence by 4, but not necessarily by 8 (e.g. 116 is divisible by 4 but not 8). Even together the statements are insufficient, so further information is needed.

46. Answer : (C) A3

Explanation : From S1, Mukund's 200 marks are 40 more than Amar's, so Amar scored 160, which is 25% of a total of 640 – but the pass mark is unknown. S2 alone gives no totals. Together, pass marks = $160 + 64 = 224$ out of 640 = 35%, so both statements are needed.

47. Answer : (C) 0.7 percent

Explanation : The passage states that natural uranium is about 0.7 percent U-235; 3–20 percent denotes reactor fuel and 90 percent or more denotes weapons-grade material.

48. Answer : (B) Low-Enriched Uranium (LEU)

Explanation : The passage expressly classifies uranium enriched to between 3 and 20 percent for most civil nuclear reactors as Low-Enriched Uranium.

49. Answer : (B) U-235 must be isolated from the far more prevalent U-238 isotope and concentrated

Explanation : The difficulty described in the passage is one of separation and enrichment: U-235 occurs in very tiny amounts and must be separated from the far more common U-238 and concentrated to a usable quantity.

50. Answer : (B) 56 years

Explanation : $Saad + 3 \times Saad = 48$ gives $Saad = 12$ and $Ali = 36$. In four years each is older by 4, so the sum becomes $48 + 8 = 56$ years.

51. Answer : (D) 40

Explanation : Together they finish in 20 days, so in 15 days they complete $15/20 = 3/4$ of the work. The remaining $1/4$ takes the boys 10 days, so the boys alone need $10 \times 4 = 40$ days.

52. Answer : (B) 40 kmph *

Explanation : The Commission's key is (B). On working, let the car's speed be c , so the bus runs at $c - 10$. Then $600/(c - 10) - 600/c = 3$, which gives $c^2 - 10c - 2000 = 0$ and $c = 50$. At 50 kmph the car takes 12 hours and the bus, at 40 kmph, takes 15 hours - exactly the three-hour difference stated. Hence 40 kmph is the speed of the bus, and the speed of the car is 50 kmph, i.e. option (C).

53. Answer : (D) ₹2.475 Lakh Crore

Explanation : New total = $15 \times 1.1 = ₹16.5$ lakh crore. Education remains 15%, so $0.15 \times 16.5 = ₹2.475$ lakh crore.

54. Answer : (D) 25%

Explanation : Agriculture is 13% and Others is 12%, so together they account for $13 + 12 = 25\%$ of the budget.

55. Answer : (C) 2.2 times

Explanation : Defence is 22% and Health is 10% of the same total, so the ratio is $22 \div 10 = 2.2$.

56. Answer : (B) 122

Explanation : The code is $26 \times (\text{number of letters}) - (\text{sum of alphabetical positions})$. ENGINEER: $26 \times 8 - 77 = 131$. INCOME: $26 \times 6 - 59 = 97$. TEACHER has 7 letters and a positional sum of $20 + 5 + 1 + 3 + 8 + 5 + 18 = 60$, so the code is $26 \times 7 - 60 = 122$.

57. Answer : (B) (ii) only

Explanation : The grapevine is an informal, unplanned network, not a formal top-down channel designed by management, so (i) is wrong. Statement (ii) correctly notes that despite carrying rumours it is rapid and often a reliable indicator of employee morale.

58. Answer : (A) Both are correct; Explanation supports Statement

Explanation : A conclusion drawn from a non-representative sample is indeed a hasty generalisation, and the explanation identifies precisely why — a biased or too-small sample fails to reflect the diversity of the population.

59. Answer : (C) He is north of his starting point

Explanation : Walking 5 km north and later 5 km south cancels the north-south displacement, leaving him 3 km due east on the same latitude, with 13 km walked in all. Hence the claim that he is north of the start is incorrect.

60. Answer : (D) Statement-I is incorrect but Statement-II is correct

Explanation : Escalation of commitment is the opposite of what Statement-I says — it is persisting with, and investing further in, a failing decision despite negative feedback. Statement-II correctly defines heuristics as mental shortcuts that speed decisions but can introduce bias.

61. Answer : (A) (i), (ii) and (iii) only

Explanation : The differences 4, 6, 8, 10, 12 form an AP, so the next term is $42 + 14 = 56$, and the n th term is $n(n + 1)$. Statement (iv) fails because terms such as 6, 12 and 20 are composite.

62. Answer : (B) 4

Explanation : $196 = 2^2 \times 7^2$, so the exponents are 2 and 2 and their sum is 4.

63. Answer : (A) 20

Explanation : Substituting the symbols gives $24 \div 6 + 5 \times 6 - 14$. By BODMAS this is $4 + 30 - 14 = 20$.

64. Answer : (B) Maternal grandson

Explanation : The sister of the man's son is the man's daughter, and she is the lady's mother-in-law, i.e.

the husband's mother. So the man is the husband's mother's father, making the husband his maternal grandson.

65. Answer : (B) Only Conclusion II is true

Explanation : Some men are educated and all educated persons prefer small families, so some men prefer small families – Conclusion II follows. Conclusion I illicitly reverses the second premise and does not follow.

66. Answer : (B) 26 triangles, 6 squares

Explanation : Counting systematically by size – the smallest triangles, then those formed by combining two, four and eight of them – yields 26 triangles, while the small quadrants, the half-squares and the outer square together give 6 squares.

67. Answer : (C) Form an impartial inquiry committee to investigate the claims thoroughly while ensuring routine work continues without disruption

Explanation : A fair, independent inquiry addresses the substance of the audit while continuity of public service is maintained. Punishing the auditor, halting all operations or ignoring the report are each indefensible.

68. Answer : (B) The halo effect

Explanation : The halo effect occurs when one favourable trait colours the assessment of all other, unrelated traits. Stereotyping works from group membership and projection attributes one's own feelings to others.

69. Answer : (C) Pen, Ink

Explanation : The sun produces light, fire produces heat, a river yields water and a teacher provides education. A pen does not produce ink – it merely contains and dispenses it, so this pair breaks the source-and-product analogy.

70. Answer : (A) 24

Explanation : A cube cut into 64 pieces is $4 \times 4 \times 4$. Two-face-painted cubes lie along the edges but not at corners: $12 \text{ edges} \times (4 - 2) = 24$.

71. Answer : (D) (a)-(ii), (b)-(iii), (c)-(i)

Explanation : Under certainty the decision maker knows the exact outcome of every alternative; under risk the probabilities of outcomes can be estimated from historical data; under uncertainty the probabilities are entirely unknown.

72. Answer : (B) Fund the awareness drive because it provides the greatest good for the greatest number of people

Explanation : Utilitarianism maximises aggregate welfare, and preventing illness in 5,000 children outweighs saving 5 lives on that calculus. Splitting the funds would render both initiatives ineffective, and returning the money abdicates the duty to decide.

73. Answer : (D) Without hard work, one does not pass the competitive exams

Explanation : The proposition makes hard work a necessary condition, and option (D) is its exact contrapositive. Option (B) wrongly converts it into a sufficient condition.

74. Answer : (B) The tendency to search for, interpret and favour information that confirms one's pre-existing beliefs, while ignoring contradictory data

Explanation : Option (A) describes anchoring, (C) describes the availability heuristic and (D) describes self-serving bias.

75. Answer : (A) Both (A) and (R) are true and (R) is the correct explanation of (A)

Explanation : Circular permutations of n objects number $(n - 1)!$, so for 8 people the count is $7!$. The reason states the underlying principle – fixing one position removes the n rotationally equivalent

arrangements – and therefore explains the assertion.

76. Answer : (D) (A) is false but (R) is true

Explanation : The assertion is false: the description 'always lies' cannot be consistently sustained, so it cannot be asserted that such a person can never utter a truth. The reason correctly identifies the self-referential contradiction that produces this paradox.

77. Answer : (D) I, II and III follow

Explanation : Some boxes are round and all round things are spheres, so some boxes are spheres (I) and, by conversion, some spheres are boxes (II). Since all rounds are spheres, some spheres are round (III). Conclusion IV illicitly reverses the universal premise and does not follow.

78. Answer : (B) 36 hours

Explanation : Net rate = $1/12 + 1/18 - 1/9 = (3 + 2 - 4)/36 = 1/36$ of the tank per hour, so the tank fills in 36 hours.

79. Answer : (B) Both Statement-I and Statement-II are incorrect definitions

Explanation : The two definitions have been swapped. Understanding another's cognitive perspective while retaining objectivity is empathy, and feeling pity or sorrow for another's misfortune is sympathy.

80. Answer : (A) Both (A) and (R) are true and (R) is the correct explanation of (A)

Explanation : Herbert Simon's account holds that administrators settle for satisfactory rather than optimal decisions precisely because bounded rationality – limited time, incomplete information and cognitive limits – makes full optimisation impossible. The reason is thus the correct explanation.