NEXT IAS

AANKALAN-I : 2026

GENERAL STUDIES-II

Answer Key

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

DELHI CENTRE:
Vivekananda House
6-B, Pusa Road,
Near Karolbagh Metro
Pillar No. 111,
Old Rajinder Nagar,
New Delhi - 110060
Phone: 8081300200

DELHI CENTRE:
Tagore House
27-B, Pusa Road,
Near Karolbagh Metro
Pillar No. 118,
Old Rajinder Nagar,
New Delhi - 110060
Phone: 8081300200

DELHI CENTRE:
Tilak House
42-B, Radio Colony,
Ramlal Kapoor Marg,
Near Parmanand Marg,
Mukherjee Nagar Centre,
North Delhi - 110009
Phone: 9311667076

JAIPUR CENTRE:
6/7, 3rd Floor,
Shri Gopal Nagar,
Near Gopalpura Bypass,
Riddhi Siddhi Circle,
Jaipur - 302015
Phone: 93582-00522

PRAYAGRAJ CENTRE:
13A/1B, KP Complex,
Tashkent Marg,
Near Civil Lines,
Prayagraj - 211001
Uttar Pradesh
Phone: 99588-57757

AANKALAN-I : 2026
General Studies-II

1. (c)

मलिक मुहम्मद जायसी का 'पद्मावत', मंझन की 'मधुमालती' और तुलसीदास का 'रामचरितमानस' तीनों अवधी में रचे गए हैं। 'पद्मावत' और 'मधुमालती' सूफी प्रेमाख्यानक काव्य हैं, जिनकी परम्परा की मुख्य भाषा अवधी रही है। सूरदास का 'सूरसागर' और बिहारी की 'सतसई' ब्रजभाषा की रचनाएँ हैं। इसलिए 3 या 5 को सम्मिलित करने वाले कूट (a), (b) और (d) गलत हैं।

2. (d)

मगही बिहार (गया, पटना, नालन्दा आदि) की बोली है और बिहारी वर्ग में आती है। कन्नौजी, बुन्देली और भोजपुरी उत्तर प्रदेश के विभिन्न क्षेत्रों में बोली जाती हैं।

3. (d)

तत्सम वे शब्द हैं जो संस्कृत से ज्यों-के-त्यों हिन्दी में आ गए हैं। 'अग्नि' तत्सम है। दूध (दुग्ध), आँख (अक्षि) और रात (रात्रि) तद्भव शब्द हैं।

4. (a)

गज, कुंजर, द्विप (दो बार पीने वाला: पहले सूँड़ से, फिर मुँह से) और करी (कर अर्थात् सूँड़ वाला) चारों 'हाथी' के पर्यायवाची हैं। विकल्प (b) में नाग और वारण हाथी के पर्याय हैं, पर 'केसरी' सिंह का पर्याय है। विकल्प (c) में हस्ती, मातंग और सिन्धुर हाथी के पर्याय हैं, पर 'शार्दूल' बाघ का पर्याय है। विकल्प (d) में 'तुरंग' घोड़े का पर्याय है।

5. (d)

संस्कृत के 'कर्ण' शब्द से हिन्दी में बदलकर 'कान' शब्द बना है, अत: 'कान' तद्भव है। करण (साधन), कनक (सोना) और कर्म तीनों तत्सम शब्द हैं।

6. (b)

सकर्मक क्रिया के भूतकालिक रूप में कर्ता के साथ 'ने' लगता है और क्रिया कर्म (पुस्तक, स्त्रीलिंग) के अनुसार 'पढ़ी' होती है। 'मेरे को' के स्थान पर 'मुझे' होना चाहिए और 'उसने पुस्तक पढ़ा' में क्रिया कर्म के लिंग के अनुसार 'पढ़ी' होनी चाहिए।

7. (a)

'राजपुत्र' का विग्रह 'राजा का पुत्र' है। विग्रह में सम्बन्ध कारक की विभक्ति 'का' का लोप हुआ है, अत: यह सम्बन्ध तत्पुरुष (षष्ठी तत्पुरुष) समास है।

8. (b)

पश्चिमी हिन्दी के अन्तर्गत खड़ी बोली, ब्रज, हरियाणवी, बुन्देली और कन्नौजी आती हैं। अवधी, बघेली और छत्तीसगढ़ी पूर्वी हिन्दी की बोलियाँ हैं।

9. (a)

'आदि' का अर्थ आरम्भ है, अत: 'आदि-आरम्भ' पर्यायवाची युग्म है, विलोम नहीं। 'आदि' का विलोम 'अन्त' है। शेष तीनों युग्म सही विलोम हैं।

10. (b)

विकल्प (b) के तीनों शब्द शुद्ध हैं: 'अन्तर्धान' (अर्न्त+ धान, अर्थात् लुप्त हो जाना), 'सौहार्द' (सुहृद् से बना) और 'कवयित्री' (कवि का स्त्रीलिंग)। विकल्प (a) में 'अंतर्ध्यान' अशुद्ध है, शुद्ध रूप 'अन्तर्धान' है। विकल्प (c) में 'सौहार्द्र' अशुद्ध है, शुद्ध रूप 'सौहार्द' है। विकल्प (d) में 'प्रमाणिक' अशुद्ध है, शुद्ध रूप 'प्रामाणिक' है, क्योंकि 'इक' प्रत्यय लगने पर पहले स्वर की वृद्धि होती है (प्रमाण + इक = प्रामाणिक)।

11. (a)

इस वाक्य में एक प्रधान उपवाक्य ('वह सफल होता है') और एक आश्रित उपवाक्य ('जो परिश्रम करता है') है, जो 'जो-वह' से जुड़े हैं। ऐसा वाक्य मिश्र वाक्य कहलाता है।

12. (a)

देशज शब्द वे हैं जो स्थानीय बोलचाल से बने हैं और जिनकी व्युत्पत्ति संस्कृत या किसी विदेशी भाषा से नहीं जोड़ी जा सकती, जैसे लोटा, खिड़की, पगड़ी, ठेठ, झोला।

13. (b)

ईकारान्त स्त्रीलिंग शब्दों का बहुवचन बनाते समय 'ई' को 'इ' करके 'याँ' जोड़ा जाता है: नदी-नदियाँ, स्त्री-स्त्रियाँ, लड़की-लड़कियाँ।

14. (b)

'अनेक' शब्द स्वयं बहुवचन है, इसलिए 'अनेकों' का प्रयोग अशुद्ध है। शुद्ध वाक्य होगा: 'उसने अनेक प्रश्न पूछे।'

15. (b)

'सुधा' का अर्थ अमृत है, विष नहीं। विष के पर्याय गरल, हलाहल आदि हैं। अनल (आग), अनिल (हवा) और निर्जर (देवता, जो जीर्ण नहीं होते) युग्म सही हैं।

16. (c)

प्रत्येक वर्ग के तीसरे, चौथे और पाँचवें व्यंजन घोष होते हैं, जिनके उच्चारण में स्वर-तन्त्रियों में कम्पन होता है। क-वर्ग में ग, घ, ङ घोष हैं; क, ख, च, छ, ट, ठ अघोष हैं।

17. (d)

'बाड़ऽ' (हो/हैं) और 'का हो' भोजपुरी के विशिष्ट प्रयोग हैं। भोजपुरी पूर्वी उत्तर प्रदेश (गोरखपुर, देवरिया, बलिया, वाराणसी) और पश्चिमी बिहार में बोली जाती है।

18. (a)

सदा + एव = सदैव। यहाँ 'आ' और 'ए' मिलकर 'ऐ' बनते हैं, जो वृद्धि स्वर सन्धि का उदाहरण है (जैसे तथा + एव = तथैव)।

19. (a)

कथन 1 सही है: कुरु जनपद (मेरठ, मुजफ्फरनगर, सहारनपुर आदि) की बोली होने के कारण राहुल सांकृत्यायन ने खड़ी बोली को 'कौरवी' नाम दिया।

कथन 2 सही है: भोजपुरी का नाम बिहार के पुराने शाहाबाद जिले के 'भोजपुर' नामक स्थान के नाम पर पड़ा, यद्यपि इसका बड़ा क्षेत्र पूर्वी उत्तर प्रदेश (गोरखपुर, देवरिया, बलिया, वाराणसी आदि) में फैला है।

कथन 3 गलत है: कन्नौजी (कन्नौज, फर्रुखाबाद, इटावा आदि) पश्चिमी हिन्दी वर्ग की बोली है; पूर्वी हिन्दी में अवधी, बघेली और छत्तीसगढ़ी आती हैं। अत: केवल 1 और 2 सही हैं।

20. (c)

'दाँत खट्टे करना' का अर्थ 'बुरी तरह हराना' है, हार मानना नहीं। शेष तीनों मुहावरों के अर्थ सही दिए गए हैं।

21. (c)

गद्यांश में स्पष्ट कहा गया है कि 'प्रकृति स्वयं अनुशासन का सबसे बड़ा उदाहरण है' और इसके प्रमाण में सूर्य, ऋतुओं और नदियों का उल्लेख किया गया है।

22. (d)

गद्यांश के अनुसार 'अनुशासन का अर्थ बाहरी दबाव से नियमों का पालन करना नहीं, बल्कि स्वयं अपने ऊपर नियन्त्रण रखना है।'

23. (d)

लेखक कहता है कि 'विद्यार्थी जीवन अनुशासन सीखने का सर्वोत्तम काल है, क्योंकि इसी काल में बनी आदतें जीवन भर साथ देती हैं।'

24. (c)

गद्यांश का अन्तिम वाक्य है: 'जो व्यक्ति स्वयं को अनुशासित नहीं कर सकता, वह दूसरों का नेतृत्व भी नहीं कर सकता।' शेष तीनों गुण अनुशासित व्यक्ति के बताए गए हैं।

25. (c)

पूरा गद्यांश अनुशासन के महत्त्व पर केन्द्रित है; प्रकृति, विद्यार्थी जीवन और समय का उल्लेख केवल उदाहरण के रूप में हुआ है। अत: 'अनुशासन का महत्त्व' ही उपयुक्त शीर्षक है।

26. (d)

The correct spelling is 'Accommodate', with double 'c' and double 'm'. It is one of the most commonly misspelt words in English.

27. (b)

'Since' is used with a point of time (2015) in the present perfect continuous tense. 'For' is used with a period of time (for ten years). 'From' would need 'to' or 'till' to complete the sense.

28. (b)

'Dispense with' means to do without or give up something, and 'abide by' means to accept and obey a rule or decision. 'Dispense of' is a confusion with 'dispose of', 'dispense off' is not an English phrasal verb, and 'abide to' is incorrect, so options (a), (c) and (d) are wrong.

29. (a)

'Was written' is the simple past passive (was/were + past participle). Its active form is the simple past: 'Rahul wrote the letter.'

30. (c)

The idiom is 'to turn a deaf ear to something', meaning to deliberately ignore what someone says or asks.

31. (a)

When the reporting verb is in the past tense, the present continuous 'am going' changes to the past continuous 'was going', the pronoun 'I' changes to 'she', and the adverb 'now' changes to 'then'. Only option (a) makes all three changes.

32. (c)

'Neither', when used as a pronoun subject, is singular and takes a singular verb. Hence 'Neither of the two boys has done the homework.'

33. (a)

'By the time' + present tense clause refers to a future point by which an action will already be

complete. This requires the future perfect tense: 'will have left'.

34. (d)

'Candid' means truthful and straightforward, frank and honest in what one says. Example: She gave a candid opinion about the plan.

35. (a)

The sentence is in the present perfect tense (has stolen). Its passive form is has/have + been + past participle: 'My bicycle has been stolen.' The vague agent 'someone' is dropped in the passive.

36. (b)

The subject of the main verb is 'The number', which is singular; 'of applicants' only modifies it. So the verb must be singular: 'The number of applicants ... has risen sharply'. Part (a) is correct because the relative pronoun 'who' refers to the plural 'applicants' and rightly takes 'have registered'. Part (c) is correct because 'since' is followed by a past-time clause. Note the contrast: 'A number of applicants have...' takes a plural verb, but 'The number of applicants has...' takes a singular verb.

37. (c)

An abstract noun names a quality, state or idea that cannot be perceived by the senses. 'Honesty' is a quality, so it is an abstract noun.

38. (b)

The correct spelling is 'Bureaucracy' (bureau + cracy). The word comes from the French 'bureau' (desk, office).

39. (d)

'Obsolete' means no longer produced or used; out of date. Example: Typewriters have become obsolete.

40. (c)

The adjective 'indifferent' takes the preposition 'to'. 'Indifferent to criticism' means not caring about or affected by criticism.

41. (c)

The passage states that she went back for the register 'which, she said, was the only proof that every child had been accounted for'. None of the other reasons is mentioned.

42. (b)

She walks twice through flood water (courage), leads the children to the highest ground and keeps a record of every child (presence of mind), and declines the commendation saying any teacher would have done the same (modesty).

43. (b)

'Rationed' means distributed in fixed, limited amounts. Its opposite is 'squandered', meaning wasted or used carelessly. Options (a), (c) and (d) are close in meaning to 'rationed', not opposite to it.

44. (d)

A visitor stays for a short time and leaves, whereas a home is permanent. She meant that the flood would pass, while the children's real place was in the school, so lessons should continue even in the shelter.

45. (a)

The last sentence of the passage says she declined 'saying that she had done nothing that any teacher would not have done'.

46. (b)

Let the son's present age be x years; then the father's age is 5x. After 8 years: $5x + 8 = 3(x + 8)$, so $5x + 8 = 3x + 24$, giving $2x = 16$ and $x = 8$ years. Check: father 40, son 8; after 8 years 48 and 16, and $48 = 3 \times 16$.

47. (a)

2 hours 24 minutes = 2.4 hours. Distance = $5 \times 2.4 = 12$ km. Time at 18 km/h = 12/18 hour = 2/3 hour = 40 minutes.

48. (c)

In PONM, KJIH and XWVU each letter is the immediate predecessor of the previous one (P-O-N-M, K-J-I-H, X-W-V-U). In GFDE the letters are G, F, D, E: the third letter skips E and the order then reverses, so the pattern is broken.

49. (b)

The terms are $n^2 + 1$ for odd n and $n^2 - 1$ for even n: $1 + 1 = 2$, $4 - 1 = 3$, $9 + 1 = 10$, $16 - 1 = 15$, $25 + 1 = 26$, $36 - 1 = 35$, $49 + 1 = 50$. The next term ($n = 8$) is $64 - 1 = 63$. The differences 1, 7, 5, 11, 9, 15 confirm this: they alternately rise by 6 and

fall by 2, so the next difference is 13 and 50 + 13 = 63.

50. (d)

Active listening means giving full attention to the speaker in order to understand the message. Paraphrasing (1), asking clarifying questions (3) and suspending judgement until the speaker has finished (4) are its standard techniques. Statement 2 is wrong: the listener must understand the speaker and may acknowledge his feelings, but need not agree with his view. Options (a) and (b) include statement 2, and option (c) leaves out statement 4.

51. (a)

Let the number be 56k + 29. Since 56 is divisible by 8, the remainder on dividing by 8 is the remainder of 29 divided by 8, which is 5 (29 = 3 × 8 + 5).

52. (a)

In each row the third number is the product of the first two plus 1: 4 × 5 + 1 = 21, 6 × 7 + 1 = 43. Therefore 8 × 9 + 1 = 73.

53. (c)

Real time = 11 : 60 minus the mirror time (when the mirror time is not exactly 12:00). 11 : 60 minus 4 : 20 = 7 : 40.

54. (c)

Simple interest = P × R × T / 100, so 800 = P × 10 × 2 / 100, giving P = Rs. 4,000. Compound interest for 2 years at 10% = P[$(1.1)^2$ - 1] = 4000 × 0.21 = Rs. 840. Alternatively, CI exceeds SI in the second year by interest on the first year's interest: 10% of 400 = 40, so CI = 800 + 40 = 840.

55. (c)

From the 5th to the 23rd is 18 days. 18 = 2 × 7 + 4, so the day moves 4 days ahead of Friday: Saturday, Sunday, Monday, Tuesday. The 23rd is a Tuesday.

56. (c)

Each number in the set equals the sum of the cubes of its own digits:

$1^3 + 5^3 + 3^3 = 1 + 125 + 27 = 153$

$3^3 + 7^3 + 0^3 = 27 + 343 + 0 = 370$

$3^3 + 7^3 + 1^3 = 27 + 343 + 1 = 371$.

For 407: $4^3 + 0^3 + 7^3 = 64 + 0 + 343 = 407$.

The others fail: 408 gives 64 + 0 + 512 = 576, 470 gives 64 + 343 + 0 = 407 (not 470), and 173 gives 1 + 343 + 27 = 371 (not 173).

57. (b)

'Bcc' (blind carbon copy) hides the Bcc addresses from every other recipient, while the 'To' and 'Cc' addresses remain visible to all recipients, including those in Bcc. So statements 1 and 2 are correct. Statement 3 is wrong: since the Bcc list is never shared, 'Reply All' from a Bcc recipient goes only to the sender and the 'To' and 'Cc' recipients, not to the other Bcc recipients.

58. (b)

Speed = 54 × 5/18 = 15 m/s. To cross the platform the train must cover its own length plus the platform: 150 + 300 = 450 m. Time = 450/15 = 30 seconds.

59. (d)

In each row, the third number is the sum of the squares of the first two: $3^2 + 4^2 = 25$, $5^2 + 12^2 = 169$. So $8^2 + ?^2 = 289$, giving $?^2 = 289 - 64 = 225$ and ? = 15.

60. (d)

The radius is perpendicular to the tangent at the point of contact, so angle OAP = 90°. Tangents from an external point are equal (PA = PB), so triangle PAB is isosceles and angle PAB = (180° - 50°)/2 = 65°. Hence angle OAB = 90° - 65° = 25°. Check: angle AOB = 180° - 50° = 130°, and in isosceles triangle OAB (OA = OB), angle OAB = (180° - 130°)/2 = 25°. 65° is angle PAB, and 40° wrongly subtracts 50° from 90°.

61. (c)

Each term is $n^3 - n$: 1 - 1 = 0, 8 - 2 = 6, 27 - 3 = 24, 64 - 4 = 60, 125 - 5 = 120. Next term = 216 - 6 = 210. Equivalently the terms are (n - 1) × n × (n + 1): 5 × 6 × 7 = 210.

62. (b)

If A and B do 5/9 of the work, C does the remaining 4/9. Wages are divided in proportion to work done, so C gets 4/9 × 720 = Rs. 320.

63. (d)

Each handshake is a pair of persons chosen from 12. Number of pairs = $^{12}C_2 = (12 \times 11)/2 = 66$.

64. (c)

Area = πr^2 and circumference = $2\pi r$. Given $\pi r^2 = 2 \times (2\pi r) = 4\pi r$. Dividing both sides by πr gives r = 4 units.

65. (b)

The sum of the numbers in each row is 30: 7 + 9 + 5 + 9 = 30, 12 + 3 + 8 + 7 = 30, 4 + 11 + 6 + 9 = 30. So 10 + 2 + X + 13 = 30, giving X = 5.

66. (d)

Let the numbers be 2x and 3x. Then (2x + 8)/(3x + 8) = 3/4, so 8x + 32 = 9x + 24, giving x = 8. The numbers are 16 and 24. Check: 24/32 = 3/4.

67. (d)

Each term is multiplied by a factor that increases by 0.5: 4 × 1.5 = 6, 6 × 2 = 12, 12 × 2.5 = 30, 30 × 3 = 90, 90 × 3.5 = 315, and 315 × 4 = 1260 confirms the pattern. 270 (90 × 3) and 360 (90 × 4) break the rising multiplier, and neither gives 1260 at the next step.

68. (d)

Brainstorming is a creative thinking technique in which a group produces as many ideas as possible on a problem, with evaluation and criticism postponed so that the free flow of ideas is not blocked.

69. (c)

Let 't' be the normal time to reach the factory.

Then, $5\left(t+\frac{3}{60}\right)=6\left(t-\frac{7}{60}\right)$

Thus, $5t+\frac{15}{60}=6t-\frac{42}{60}$

$$\frac{15}{60}+\frac{42}{60}=6t-5t$$

$$\frac{57}{60}=t$$

Thus, $t=\frac{57}{60}hours$

Required distance

$$=5\times\left[\frac{57}{60}+\frac{3}{60}\right]$$

$$=5\times\frac{60}{60}=5kms$$

Hence, option (c) is correct.

70. (a)

LCM of 4, 6, 10, 15 = 60 = $2^2 \times 3 \times 5$. For a perfect square every prime must have an even power, so multiply by 3 × 5: $2^2 \times 3^2 \times 5^2 = 900$. $900 = 30^2$ and is divisible by all four numbers.

71. (d)

On the y-axis, x = 0. Putting x = 0 gives 5y = 15, so y = 3. The line meets the y-axis at (0, 3). (It meets the x-axis at (5, 0).)

72. (c)

The word is split into pairs of letters and the letters within each pair are interchanged: MO-BI-LE becomes OM-IB-EL. Applying the same rule, TA-BL-ET becomes AT-LB-TE, i.e. ATLBTE.

73. (a)

Minute hand at 40 minutes: 40 × 6 = 240° from 12. Hour hand: 4 × 30 + 40 × 0.5 = 120 + 20 = 140° from 12. Angle between them = 240° - 140° = 100°.

74. (d)

All four numbers are perfect cubes: $2197 = 13^3$, $4913 = 17^3$, $6859 = 19^3$ and $9261 = 21^3$. 13, 17 and 19 are prime numbers, whereas 21 = 3 × 7 is composite. So 9261 is the cube of a composite number and is the odd one out. (It is also the only one divisible by 3.)

75. (b)

The rational decision-making process begins with identifying and clearly defining the problem. Only then can alternatives be developed, evaluated, selected and implemented.

76. (b)

From the universal affirmative 'All teachers are readers', the converse by limitation 'Some readers are teachers' follows. 'All readers are teachers' does not follow (the converse of an A-proposition is not valid), while options (c) and (d) contradict the given statement.

77. (c)

Adjacent angles of a rhombus (a parallelogram) are supplementary, so A + B = 180°. With A : B

= 2 : 3, A = 72° and B = 108°. Opposite angles of a rhombus are equal, so C = A = 72°.

78. (a)

A firm handshake, steady eye contact, upright posture, suitable facial expressions and nodding all convey confidence and attention. Slouching signals disinterest, checking the watch signals impatience, and tightly crossed arms signal defensiveness, so 3, 5 and 7 are excluded.

79. (c)

(A ∪ B) - B contains the elements that are in A or B but not in B, i.e. the elements of A that are not in B. That is exactly A - B. (It equals A only when A and B have no common element.)

80. (a)

'The only daughter of my mother' is the woman herself. So the man's mother is the woman; she is his mother.

81. (b)

The only son of Rohan's grandfather is Rohan's father. The daughter of Rohan's father is Rohan's sister.

82. (d)

Let the ages be 5x and 7x. Then (5x + 4)/(7x + 4) = 3/4, so 20x + 16 = 21x + 12, giving x = 4. A's present age = 5 × 4 = 20 years. Check: 24/32 = 3/4.

83. (d)

The operations alternate: divide by 2, then multiply by 3. 96 ÷ 2 = 48, 48 × 3 = 144, 144 ÷ 2 = 72, 72 × 3 = 216, so the next term is 216 ÷ 2 = 108.

84. (a)

Work per hour of A = 1/6 - 1/10 = (5 - 3)/30 = 2/30 = 1/15. So A alone takes 15 hours.

85. (a)

1-digit numbers (1 to 9): 9 numbers × 1 digit each = 9 digits.

2-digit numbers (10 to 99): (99 - 10 + 1) = 90 numbers × 2 digits each = 180 digits.

3-digit numbers (100 to 319): (319 - 100 + 1) = 220 numbers × 3 digits each = 660 digits.

Total: 9 + 180 + 660 = 849 digits.

86. (a)

All the numbers except 15 are prime numbers. 15 = 3 × 5 is a composite number, so it is the odd one out.

87. (a)

The statement is attributed to Charles F. Kettering, the American inventor and head of research at General Motors. It stresses that clearly defining a problem is the most important step towards solving it.

88. (a)

In BDF, HJL and NPR each letter is two places ahead of the previous one (B + 2 = D, D + 2 = F, and so on). In TWY the gaps are 3 (T to W) and 2 (W to Y), so it breaks the pattern.

89. (b)

231 × 1 = 231, 231 × 2 = 462, 231 × 3 = 693; every number in the set is a multiple of 231 (i.e. divisible by 3, 7 and 11). 231 × 4 = 924, which has the same property. None of 843, 762 and 655 is divisible by 231 (843 and 762 are divisible by 3 but not by 7 or 11; 655 is divisible by none of 3, 7 and 11).

90. (b)

Let the cost price of 1 kg be Rs. 100. Marked price = Rs. 140, and after the 10% discount the selling price = Rs. 126. For this Rs. 126 he actually gives only 900 g, whose cost price is Rs. 90. Profit = 126 - 90 = Rs. 36 on a cost of Rs. 90, i.e. 36/90 × 100 = 40%. 26% ignores the false weight, and 36% wrongly calculates the profit on a cost of Rs. 100 instead of Rs. 90.

91. (a)

A: medical terms that the patient cannot decode are a semantic (language) barrier (2).

B: a long chain of command that distorts a message is an organisational barrier (4).

C: distrust of the sender, which shuts out the message, is a psychological (attitudinal) barrier (3).

D: a poor network is a physical or mechanical barrier (1).

Hence A-2, B-4, C-3, D-1. Option (b) swaps the organisational and psychological barriers, option (c) swaps the semantic and organisational barriers, and option (d) swaps the semantic and physical barriers.



92. (d)

$3^2 + 2 = 11$

$5^2 - 2 = 23$

$7^2 + 2 = 51$

$11^2 - 2 = 119$

$13^2 + 2 = 171$

93. (c)

According to Daniel Goleman the components of emotional intelligence are self-awareness, self-regulation, motivation, empathy and social skills. Physical strength is not related to emotional intelligence.

94. (c)

Classical conditioning was propounded by Ivan Pavlov. Jean Piaget is known for his theory of cognitive development. The other three pairs are correctly matched.

95. (a)

The second equation is exactly twice the first (a1/a2 = b1/b2 = c1/c2 = 1/2), so both represent the same line. Every point on the line satisfies both equations, giving infinitely many solutions.

96. (d)

Claude Shannon developed the model in 1948 at Bell Telephone Laboratories to study the efficient transmission of signals over telephone channels, and Warren Weaver extended it to human communication in 1949; so statement 1 is correct. Its elements are the information source, transmitter, channel, receiver and destination, along with a 'noise source' that distorts the signal; so statement 2 is correct. The message flows in one direction only, and feedback is not part of the original model, which is its main criticism; so statement 3 is also correct.

97. (b)

Opposite angles of a cyclic quadrilateral are supplementary. A + C = 180°: 2x + 4 + 2y + 10 = 180, so x + y = 83. B + D = 180°: y + 3 + 4x - 5 = 180, so 4x + y = 182. Subtracting, 3x = 99, so x = 33 and y = 50. Hence angle B = 50 + 3 = 53°. Check: A = 70°, C = 110° (sum 180°); B = 53°, D = 127° (sum 180°). 70°, 110° and 127° are the values of angles A, C and D respectively.

98. (d)

From the statements: S < Q < P < R < T. In increasing order the first (lightest) is S.

99. (a)

Each letter is replaced by its position in the alphabet: H = 8, O = 15, U = 21, S = 19, E = 5, written together as 81521195. For TABLE: T = 20, A = 1, B = 2, L = 12, E = 5, giving 2012125.

100. (d)

Speak to him privately, cite the specific instances, explain how it affects you and ask that your contribution be acknowledged in future

Assertive communication states one's own needs and feelings clearly and directly while respecting the other person. Option (d) does this: it is direct, relies on specific facts rather than labels, explains the effect on the speaker and makes a clear request. Option (a) labels the colleague as dishonest behind his back, which is aggressive and indirect. Option (b) avoids the issue and quietly withdraws cooperation, which is passive. Option (c) is a sarcastic, indirect jab in public, which is passive-aggressive.

■■■■