SSC MOCK TEST - 430 (SOLUTION)

1. (3) Perfume is used for Fragrance, similarly, Fan is used for Cooling.
2. (3) (1) 3487 $\rightarrow$ 3 + 4 + 8 + 7 = 22 $\rightarrow$ 2 + 2 = 4
   (2) 7891 $\rightarrow$ 7 + 8 + 9 + 1 = 25 $\rightarrow$ 2 + 5 = 7
   (3) 3916 $\rightarrow$ 3 + 9 + 1 + 6 = 19 $\rightarrow$ 1 + 9 = 10 $\rightarrow$ 1 + 0 = 1 $\neq$ 2
   (4) 7236 $\rightarrow$ 7 + 2 + 3 + 6 = 18 $\rightarrow$ 1 + 8 = 9
3. (1) Except Frog, all other are viviparous animals.
4. (2) A is heavier than G.
   E is lighter than D, who is not heavier than G.
   F is not heavier than E.
   C is heavier than G.
   Neither C nor A is the heaviest.
   B > A/C > C/A > G > D > E > F
   3 persons are lighter than G.
5. (2) Given: K5, M7, P11, T13, Y17, E19, ?
   The pattern is as follows:
   For letters: K + 2 = M, M + 3 = P, P + 4 = T, T + 5 = Y, Y + 6 = E, E + 7 = L
   For Numbers: Prime number series is followed:
   5, 7, 11, 13, 17, 19, 23
   Thus, 'L23' is correct.
6. (2) 6 × 0.5 + 1 = 4
   4 × 1 + 2 = 6
   6 × 2 + 3 = 15
   15 × 4 + 4 = 64
   64 × 8 + 5 = **517**
   517 × 16 + 6 = 8278
7. (2) 'Red' is coded as 'Green',
   'Green' is coded as 'Yellow',
   'Yellow' is coded as 'Black',
   'Black' is coded as 'White',
   Our hair is of Black colour and the code for black is White.
   Hence, 'white' is the correct answer.
8. (1) 17 + 56 – 3 ÷ 21 × 4 = 45
   When we interchange 3 and 4, ÷ and × then we get the equation as follows :
   17 + 56 – 4 × 21 ÷ 3 = 45
   17 + 56 – 28 = 45
   73 – 28 = 45
   45 = 45

9. (4) As,

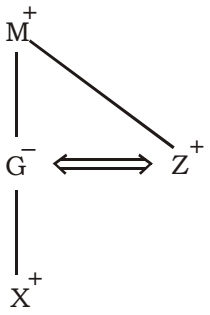
16	32	64
↓	↓	↓
4^2	$(4\times8)=32$	8^2

Similarly, only (81, 63, 49) follows the same pattern.

81	63	49
↓	↓	↓
9^2	$(9\times7)=63$	7^2

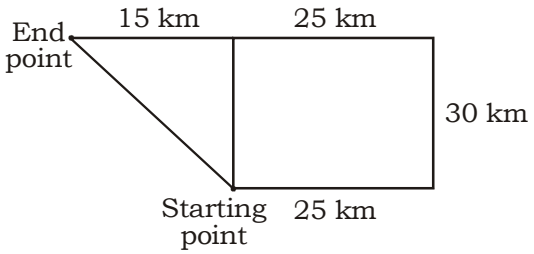
10. (4) The logic used here is:
JKA : OPF
J + 5 = O
K + 5 = P
A + 5 = F
Similarly,
VYX : ?
V + 5 = A
Y + 5 = D
X + 5 = C

11. (2)



Hence, Z is the father of X.

12. (3)

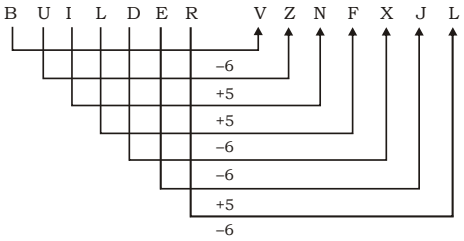


∴ Required distance = $\sqrt{15^2+30^2} = \sqrt{225+900} = \sqrt{1125} = 15\sqrt{5}$ km

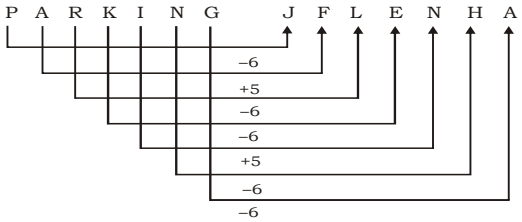
13. (4)

14. (1) P(16) = F(6) + J(10)
M(13) = C(3) + J(10)
Q(17) = F(6) + **K(11)**

15. (3) As,



Similarly,



Note : Vowel → +5

Consonant → –6

16. (4) 1. Hatchability → 4. Hatchback → 2. Hatchel → 3. Hatchers → 5. Hatchings

17. (2) First area = $\pi \times 90 \times 90 = 8100\pi$

Second area = $\pi \times 99 \times 99 = 9801\pi$

$\therefore$ Required% = $\left(\frac{9801\pi - 8100\pi}{8100\pi} \times 100\right)\% = 21\%$

18. (1) As,

N O R M A L → Alphabetic order →

A	L	M	N	O	R
+3	–3	+3	–3	+3	–3
D	I	P	K	R	O

And,

S O U N D → Alphabetic order →

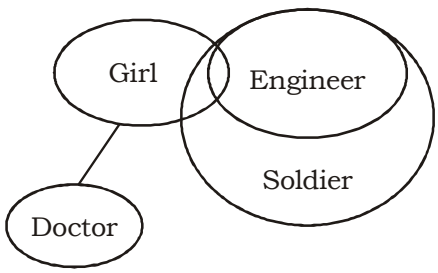
D	N	O	S	U
+3	–3	+3	–3	+3
G	K	R	P	X

Similarly,

C L U S T E R → Alphabetic order →

C	E	L	R	S	T	U
+3	–3	+3	–3	+3	–3	+3
F	B	O	O	V	Q	X

19. (2)



I. False II. False III. True

Hence, only conclusion III follows.

20. (2) 21. (4) 22. (3) 23. (2) 24. (2) 25. (3)

26. (4) Seven countries - China, Pakistan, Bhutan, Myanmar, Afghanistan, Nepal and Bangladesh.

27. (2) Myanmar and Bangladesh in the East are the countries adjacent to India on land.

30. (4) India has various economic policies which are industrial policy, trade policy, monetary policy, fiscal policy, Indian agricultural policy, National agricultural policy, industrial policies, International trade policy.

31. (2) India shares land border of 4096.7 km with Bangladesh; it is the longest amongst all other neighbouring countries.

32. (1) The Bhabha Atomic Research Centre is India's premier nuclear research facility, headquartered in Trombay, Mumbai, Maharashtra.

33. (3) APJ Abdul Kalam, is known as the 'Missile Man of India' for his contribution to developing India's first missile Prithvi.

34. (1) Prime Minister Narendra Modi inaugurated Kolkata's groundbreaking underwater metro train service, a milestone in India's infrastructure. The project, part of Kolkata Metro's East-West corridor, aims to boost connectivity between Howrah and Salt Lake.

35. (4) One of the most celebrated styles of Indian art is, Madhubani which originated in the Mithila region of Bihar as a form of wall art.

36. (4) Keyi Panyor, Arunachal Pradesh's 26th district, emerged from Lower Subansiri, fulfilling a longstanding demand of the Nyishi community. Ter Gapin-Sam Sarth is appointed as its headquarters.

37. (1) Cycas circinalis, locally known as Eenthu Pana, a palm like tree, faces imminent extinction in northern Kerala due to an unidentified, rapidly spreading plant disease. Belonging to the endangered cycad family, these ancient plants originated 300 million years ago.

38. (4) 'We Indians' is written by Khushwant Singh.

39. (1) West Indies won the first Cricket World Cup by defeating Australia by 17 runs in the final.

40. (2) In March 2024, Praneeth announced his retirement from international badminton on social media. The 31-year-old from Hyderabad, Telangana cited injuries since the 2020 Tokyo Olympics as the reason for his retirement.

41. (1) Zero Discrimination Day is an annual day celebrated on 1 March each year by the United Nations (UN) and other international organizations

42. (3) An Initial Public Offer is the selling of securities to the public in the primary market.

43. (1) The Bihar government appointed Brajesh Mehrotra, a senior IAS officer, as the new chief secretary. Presently the additional chief secretary of revenue and land reforms, Mehrotra's distinguished career includes roles in general administration and parliamentary affairs, showcasing his dedication and competence in public service.

44. (1) Acetic acid , systematically named ethanoic acid , is an acidic, colourless liquid and organic compound with the chemical formula CH3COOH.

46. (2) Cholera is an acute diarrheal illness caused by infection of the intestine with Vibrio cholerae bacteria.

48. (3) Newton's third law states that when two bodies interact, they apply forces to one another that are equal in magnitude and opposite in direction. The third law is also known as the law of action and reaction.

49. (1) Dentists use concave mirrors to see teeth and other areas in the mouth.

50. (1) The SI unit for frequency is the hertz (Hz). One hertz is the same as one cycle per second.

51. (1) Perimeter of rectangle = 2(35 + 25) = 120 m

Now, perimeter of square = 120 m

Side of square = $\frac{120}{4}$ = 30 m

$\therefore$ Area of square = $(30)^2$ = 900 m^2

52. (4) Let the speed of car = x km/hr

Speed of train = $x \times \frac{140}{100} = \frac{7x}{5}$ km/hr

ATQ,

$$\frac{80}{x} - \frac{80}{\frac{7x}{5}} = \frac{12.5}{60}$$

$$\frac{80}{x} - \frac{400}{7x} = \frac{12.5}{60}$$

$$\frac{560 - 400}{7x} = \frac{12.5}{60}$$

$$\frac{160}{7x} = \frac{12.5}{60}$$

$\therefore$ $x = \frac{60 \times 160}{7 \times 12.5} = \frac{768}{7}$ km/hr $= 109\frac{5}{7}$ km/hr

53. (3) Let the length of the rectangular field be l and beradth be b.

Area of the rectangular field = lb

Since length of a reactangular field is increased by by 14 m and breadth is decreased by 6 m, still area remains the same

Now, lb = (l + 14) (b – 6)

14b – 6l = 84 .....(i)

Again the length is decreased by 14 m and breadth is increased by 10 m, then also area remains the same

Now, lb = (l – 14) (b + 10)

10l – 14b = 140 .....(ii)

Adding equation (i) and (ii),

We get, 4l = 224

l = 56 m

Putting the value of l in equation (i),

146 – 6 × 56 = 84

146 = 84 + 336

$\therefore$ $b = \frac{420}{14} = 30$ m

54. (4) $\frac{8}{9}\text{of}\left(5\frac{1}{4} \div 2\frac{1}{3}\text{of}\,4\right) \div \left(8 \div \frac{2}{3}\text{of}\frac{4}{5}\right)\text{ of }\left(8 \times \frac{2}{3} \div \frac{4}{5}\right)$

$$= \frac{8}{9}\text{of}\left(\frac{21}{4} \div \frac{28}{3}\right) \div \left(8 \div \frac{8}{15}\right)\text{of}\left(8 \times \frac{2}{3} \times \frac{5}{4}\right)$$

$$= \frac{8}{9}\text{of}\left(\frac{21}{4} \times \frac{3}{28}\right) \div \left(8 \times \frac{15}{8}\right)\text{of}\left(\frac{20}{3}\right)$$

$$= \frac{8}{9}\text{of}\,\frac{9}{16} \div 15\,\text{of}\,\frac{20}{3} = \frac{1}{2} \times \frac{1}{100} = \frac{1}{200}$$

55. (2) Let the total number of students in a class be 1000.

Number of students who did not appear for the exam = $1000 \times \frac{4}{100} = 40$

Number of students who appeared for the exam = 1000 – 40 = 960

Number of appeared students who could not pass the exam = $960 \times \frac{10}{100} = 96$

Remaining students who passed the exam = 960 – 96 = 864

Number of students who only passed but couldn't get distinction marks = $864 \times \frac{50}{100} = 432$

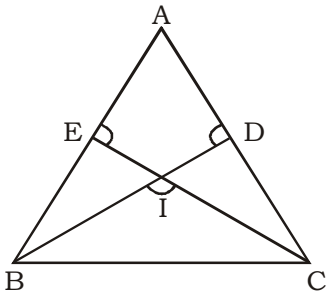
ATQ,

$432 \rightarrow 1080$

$1000 \rightarrow \frac{1080}{432} \times 1000 = 2500$

$\therefore$ Total number of students in a school = 2500

56. (3)



$BD \perp AC$

Hence, $\angle BDA = 90°$

$CE \perp AB$

Hence, $\angle CEA = 90°$

In quadrilateral, AEID

$\angle A + \angle AEI + \angle AIE + \angle IDA = 360°$

$\angle A + 90° + \angle EID + 90° = 360°$

$\angle A + \angle EID = 180°$

$\angle EID = \angle BIC$ (Vertically opposite angles)

$\angle A + \angle BIC = 180°$

$\therefore$ $\angle BIC = 180° - \angle A$

57. (3) Let us assume that the average of 100 numbers be 36.

75% of 100 = 75

If we assume that the all the numbers are 36, then

ATQ,

75% of Number is increased by 6

New number = 36 + 6 = 42

Also given that

25% numbers are decreased by 9

36 – 9 = 27

$\therefore$ New average = $\frac{(42 \times 75) + (27 \times 25)}{100} = \frac{153}{4} = 38.25$

58. (2) Total runs scored in 42 overs = 42 × 4.5 = 189 runs

∴ Required run rate per over = $\frac{325-189}{8}=\frac{136}{8}=17$

59. (3) Let the cost price of an article be ₹100.

Selling price of an article = $100 \times \frac{140}{100}$ = ₹140

New cost price of an article = $100 \times \frac{60}{100}$ = ₹60

New selling price of an article = $60 \times \frac{140}{100}$ = ₹84

ATQ,

$(140 - 84) \rightarrow 750.40$

$100 \rightarrow \frac{750.40}{56} \times 100$ = ₹1340

∴ Cost price of an article = ₹1340

60. (2) P = ₹12500

$T = \frac{11}{2}$ years

Compounded half yearly,

T = 11 years

A = ₹13000

SI = A – P = 13000 – 12500 = ₹500

$SI = \frac{PRT}{100}$

$500 = \frac{12500 \times R \times 11}{100}$

$R = \frac{500 \times 1}{125 \times 11} = \frac{4}{11}$

For first half year

∴ $R = \frac{2 \times 4}{11} = \frac{8}{11}\%$

61. (1) $\tan 15^\circ = 2 - \sqrt{3}$

$\tan 15^\circ \cot 75^\circ + \tan 75^\circ . \cot 15^\circ$

$= \tan^2 15^\circ + \frac{1}{\tan^2 15^\circ}$

$= (2 - \sqrt{3})^2 + (2 + \sqrt{3})^2$

$= 4 + 3 - 4\sqrt{3} + 4 + 3 + 4\sqrt{3} = 14$

62. (2) $AB + BC = 12$
$BC + CA = 14$
$CA + AB = 18$
$2(AB + BC + CA) = 44$
$\therefore AB + BC + CA = 22$

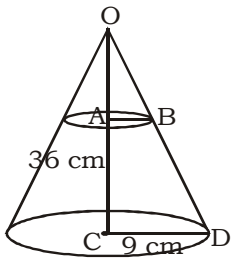
Perimeters of the circle = $2\pi r = 22$

$2 \times \frac{22}{7} \times r = 22$

$r = \frac{7}{2} = 3.5$

Hence, the radius of circle = 3.5 cm

63. (3)



Height of upper part of the cone = $\frac{1}{3} \times 36 = 12$ cm

OA = 12 cm

$\Delta OAB \sim \Delta OCD$

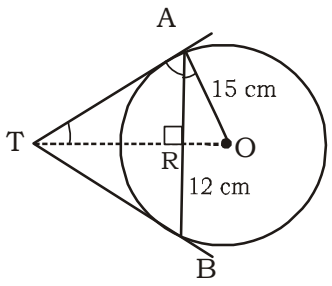
$\frac{OA}{OC} = \frac{AB}{CD}$

$\frac{12}{36} = \frac{AB}{9}$

AB = 3 cm

$\therefore$ Volume of the upper part = $\frac{1}{3}\pi r^2 h = \frac{1}{3} \times \frac{22}{7} \times 3 \times 3 \times 12 = \frac{22 \times 36}{7} = 113.14 \text{ cm}^3$

64. (2)



$OR = \sqrt{(15)^2 - (12)^2} = 9$ cm

As we know,

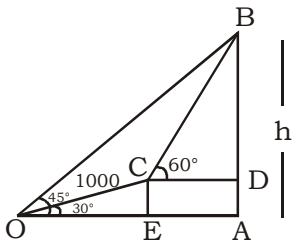
$\Delta OAT \sim \Delta ORA$ (By AAA Similarity)

$$\frac{AT}{OA} = \frac{RA}{OR}$$

$$\frac{AT}{15} = \frac{12}{9}$$

$\therefore$ $AT = 20$ cm

65. (4)



Let A be the foot and C, the top of the mountain and height of mountain be h.

In ΔDFA,

$$\cos 30^\circ = \frac{AF}{AD}$$

$$\frac{\sqrt{3}}{2} = \frac{AF}{1}$$

$$AF = \frac{\sqrt{3}}{2}\text{ km}$$

$$\sin 30^\circ = \frac{DE}{AD}$$

$$\frac{1}{2} = \frac{DF}{1}$$

$$DF = \frac{1}{2}\text{ km}$$

In ΔABC,

$\tan 45° = \frac{CB}{AB}$

AB = h

$DE = BF = AB - AF = \left(h - \frac{\sqrt{3}}{2}\right)$ km

$CE = BC - BE = BC - DF$

$= \left(h - \frac{1}{2}\right)$ km

In ΔCED,

$\tan 60° = \frac{CE}{DE}$

$$\sqrt{3} = \frac{h - \frac{1}{2}}{h - \frac{\sqrt{3}}{2}}$$

$$\sqrt{3}h - \frac{3}{2} = h - \frac{1}{2}$$

$$\sqrt{3}h - h = 1$$

$$\therefore \quad h = \left(\frac{1}{\sqrt{3}-1}\right)km = \frac{\sqrt{3}+1}{2}km$$

66. (2) According to the question,

$M_1 \times D_1 \times T_1 \times W_2 = M_2 \times D_2 \times T_2 \times W_1$

$36 \times 6 \times 10 \times 1200 = 10 \times D_2 \times 8 \times 1200$

$$\therefore \quad D_2 = \frac{36 \times 6 \times 10 \times 1200}{10 \times 8 \times 1200} = 27 \text{ days}$$

67. (4) If the required distance be x km.

ATQ,

$$\frac{x}{5} - \frac{x}{6} = \frac{30-5}{60}$$

$$\frac{6x - 5x}{30} = \frac{25}{60} = \frac{5}{12}$$

$$\therefore \quad x = \frac{30 \times 5}{12} = 12.5 \text{ km}$$

68. (1) Let the amount given at 4% per annum be ₹x.

Amount given at 5% per annum = ₹$(1200 - x)$

ATQ,

$$\frac{x \times 4 \times 2}{100} + \frac{(1200 - x) \times 5 \times 2}{100} = 110$$

$$\frac{-2x + 12000}{100} = 110$$

x = ₹500

Also, $(1200 - x)$ = 1200 – 500 = ₹700

69. (4) Time taken by Sunil = x minutes

Time taken by Anil = $(x + 10)$ minutes

ATQ,

$$\frac{2}{3}=\frac{x}{x+10}$$

$2x + 20 = 3x$

$x = 20$ minutes

Time taken by Anil = 30 minutes

$\therefore$ Time taken by Anil when he doubles his speed = $\frac{30}{2}$ = 15 minutes

70. (4) Let the original value of fridge be ₹x.

Then, Cost price = ₹$\frac{15}{16}x$

Selling price = $\frac{110}{100} \times x$ = ₹$\frac{110x}{100}$

$\therefore$ Gain per cent = $\left(\frac{\frac{110}{100}x-\frac{15}{16}x}{\frac{15}{16}}\times 100\right)\%$ = 17.33%

71. (2) Let the capital be ₹ = x.

According to the question,

$$\frac{x\times 8\times 1}{100}-x\times\frac{31}{4}\times\frac{1}{100}=61.50$$

$$\frac{8x}{100}-\frac{31x}{400}=61.50$$

$$8x-\frac{31x}{4}=61.50\times 100$$

$$\frac{32x-31x}{4}=6150$$

$$\frac{x}{4}=6150$$

$x = 4 \times 6150$ = ₹ 24600

72. (4) Cost price of 30 kg of wheat = 30 × 45 = ₹1350

Total SP for an overall profit of

25% = $\frac{1350\times 125}{100}$ = ₹1687.5

SP of $\left(\frac{30\times 40}{100}\right)$ = 12 kg of wheat = 12 × 50 = ₹600

Expected SP of 18kg of remaining wheat = 1687.5 – 600 = ₹1087.5

Required selling price per kg = $\frac{1087.5}{18}$ = ₹60.41 ≈ ₹60

73. (1) Students enrolled in 2008 in all three districts = 8000 + 6000 + 7000 = 21000

Students enrolled in district Q over all the years together = 5000 + 4000 + 7000 + 6000 + 4000 + 7000 = 33000

Required difference = 33000 – 21000 = 12000

74. (2) Number of doctors in Mumbai = $20000 \times \frac{6}{100} = 1200$

Total number of employees in Delhi = $\frac{20000}{4} \times 5 = 25000$

So, number of doctors in Delhi = $25000 \times \frac{12}{100} = 3000$

$\therefore$ Required difference = 3000 – 1200 = 1800

75. (3) Total number of boys in Banking and SSC = 45 + 186 + 220 + 200 + 65 + 32 + 55 + 25 = 828

Total number of girls in Banking and SSC = 35 + 33 + 45 + 24 + 25 + 20 + 15 + 30 = 227

$$\therefore \text{ Required } \% = \left[\frac{\left(828 \times \frac{60}{100} + 227 \times \frac{70}{100}\right)}{828 + 227} \times 100\right]\%$$

$$= \left[\frac{(496.80 + 158.90)}{1055} \times 100\right]\% = \left(\frac{655.7}{1055} \times 100\right)\% = 62.15\ \% \approx 62\%$$

MEANINGS IN ALPHABETICAL ORDER

Concurrence	the fact of two or more events or circumstances happening or existing at the same time	सन्निपतन
Distraction	a thing that prevents someone from giving full attention to something else	व्याकुलता
Haggard	looking exhausted and unwell, especially from fatigue, worry, or suffering	जंगली
Hunch	raise (one's shoulders) and bend the top of one's body forward	उखाड़
Ideology	a system of ideas and ideals, especially one which forms the basis of economic or political theory and policy	विचारधारा
Intuition	the ability to understand something immediately, without the need for conscious reasoning	अंतर्ज्ञान
Marvellous	causing great wonder; extraordinary	अद्‌भुत
Melodious	of, producing, or having a pleasant tune; tuneful	मधुर
Offending	causing problems or displeasure	हमलावर
Precedent	an earlier event or action that is regarded as an example or guide to be considered in subsequent similar circumstances	मिसाल
Precursor	a person or thing that comes before another of the same kind; a forerunner	अग्रगामी
Preside	be in the position of authority in a meeting or other gathering	अध्यक्षता
Pursuit	the action of following or pursuing someone or something	पीछा
Resonance	the quality in a sound of being deep, full, and reverberating	गूंज
Scholarly	involving or relating to serious academic study	विद्वत्तापूर्ण
Stoic	a person who can endure pain or hardship without showing their feelings or complaining	उदासीन
Tangible	perceptible by touch	स्पर्श योग्य
Temperate	relating to or denoting a region or climate	शीतोष्ण
Terrific	of great size, amount, or intensity	भयानक
Tire	feel or cause to feel in need of rest or sleep	थका देना

SSC MOCK TEST - 430 (ANSWER KEY)

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

75. (3) The correct answer is option (3) i.e. a self-declared republic within Azerbaijan, risk. The error lies in option b because of the wrong use of "Subject-verb agreement". We need to replace "Risk" with "Risks" for making the statement grammatically correct.

77. (2) The correct answer is option (2) i.e. The sudden escalation of an ongoing tussle among. The error lies in option c because of the wrong use of "Preposition". We need to replace "Among" with "Between" for making the statement grammatically correct.

86. (3) The correct answer is option (3) i.e. might go. The given statement is an example of second conditional sentence because the sentence is expressing about a situation which was completely unrealistic or did not happen in the future. The second conditional statement takes simple past tense in the if clause and an auxillary modal in the main clause to show unrealistic outcome. The correct structure for the given statement will be- If + subject + v2 + object, Subject + might + v1 + object + other words. As the chosen option follows this structure it will be the correct answer.

87. (1) The correct answer is option (1) i.e. a rare mineral with links to the red. A preposition is followed by the "Noun". Only "links" acts as a noun hence, it will improve the statement correctly. "Linked (past participle), link (verb)", hence, they will not be the answer.

90. (2) The correct spelling is 'Concurrence'.

91. (2) The correct spelling of 'Coveal' is 'Coeval'.