KD Campus
KD Campus Pvt. Ltd
PLOT NO. 2 SSI, OPP METRO PILLAR 150, GT KARNAL ROAD, JAHANGIRPURI DELHI: 110033

SSC MOCK TEST –162 (SOLUTION)

1. (A) As,

D E M A N D : X N A O W X

(Opposite alphabets)+1

Similarly,

S H O U L D : **X P G M T I**

(Opposite alphabets)+1

2. (C) Here, each digit in second number is the square root of each digit in first number,

As, 1 9 4 : 1 3 2

Square root

Similarly, 4 1 1 : **2 1 1**

Square root

3. (D) As, Malayalam is major spoken language in Kerala.
Similarly, Kokani is major spoken language in **Goa**.

4. (D) In every pair of numbers, except (9-782), the 1st number, completely divides the product of the digits in the 2nd number.
6-831 → 6 completely divides (8×3×1=24)
7-176 → 7 completely divides (1×7×6=42)
4-362 → 4 completely divides (3×6×2=36)
9-782 → 9 doesn't completely divides (7 × 8 × 2 =112)

5. (D) Except **Mambas**, others are classes of vertebrates (animals with back bones).

6. (D) F I L H K N D G J **M P R**
+3 +3 +3 +3 +3 +3 **+3 +2**

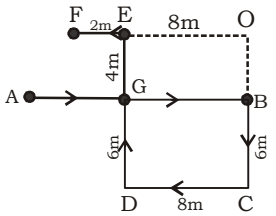
7. (B) Correct sequence is **2 4 1 5 3**
Submarine
Subsequent
Substance
Substitute
Substrate

8. (A) AC, ZB, BD, AC, CE, **BD**
-1 +2 -1 +2 -1

9. (C) 3 8 36 140 564 **2252**
×4-4 ×4+4 ×4-4 ×4+4 ×4-4

10. (B) A.T.Q.,
Numbers formed using 3rd, 5th and 8th digit of given number are 144 , 441 which are perfect square.
$144 \rightarrow (12)^2$
$441 \rightarrow (21)^2$
$\because$ 21 is an odd number so,
$\therefore$ Required answer is **1**

11. (B)



Let FE and CB meet at point O.

$\therefore$ Required Distance = $\sqrt{(FO)^2 + (OC)^2}$

$= \sqrt{10^2 + 10^2}$

$= \mathbf{10\sqrt{2}\ cm}$

12. (C) '**CUSTOM**' cannot be written.

13. (C) As,

S T A N D A R D
3 2 7 8 1 7 4 1

and, C R I C K E T
0 4 5 0 9 6 2

Similarly,

R E T E N N A
4 6 2 6 8 8 7

14. (B) $18 - 48 \div 882 + 18 \times 300$
After changing the signs according to given details,
$18 \times 48 + 882 \div 18 - 300$
$\Rightarrow 864 + 49 - 300 = \mathbf{613}$

15. (C) As, $90 \sim 5 = 20 \rightarrow \frac{90}{5} + (2) = 18 + 2 = 20$

and $88 \sim 4 = 24 \rightarrow \frac{88}{4} + (2) = 22 + 2 = 24$

Similarly,

$77 \sim 7 = 19 \rightarrow \frac{77}{7} + (2) = 11 + 2 = \mathbf{13}$

16. (A) As, $8^2 + 4^2 + 8 + 4 = 92$
and, $13^2 + 3^2 + 13 + 3 = 194$
Similarly, $9^2 + x^2 + 9 + x = 272$
$\Rightarrow 90 + x^2 + x - 272 = 0$
$\Rightarrow x^2 + x - 182 = 0$
$\Rightarrow x^2 + 14x - 13x - 182 = 0$
$\Rightarrow x(x + 14) - 13(x + 14) = 0$
$\Rightarrow (x - 13)(x + 14) = 0$
$\therefore x =$ **13**

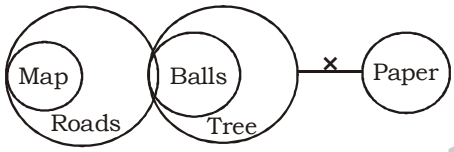
17. (C) **20 triangles**

18. (A) According to given statement it is clear that the birthday of Harsh's father birthday was after 16th March but before 18th March. Hence we can conclude that his father's birthday is on **17th March**.

19. (C) Option '**C**' is correct answer because on this shows some part of rectange, square and hexagon is common and some part of circle, triangle and rectange is common.

20. (B) '**15**' represents the students who play Footbal, Hockey and Chess but not Cricket.

21. (A)



I - True (as it is a possibility)
II - False (as it is not a possibility but a definite concusion).
$\therefore$ Only **conclusion I** follows.

22. (D)

23. (D)

24. (B)

25. (A)

T	I	G	E	R
↓	↓	↓	↓	↓
21	**57**	**33**	**89**	**96**

26. (D) Tarikh-i-Firuzshahi written by Shams Siraj Afif, gives a detailed account of the reign of Sultan firuz shah tughlaq (1351-1388 AD). Afif was born in a noble family, whose members are known to have served the sultanate since the days of Sultan Alauddin Khalji.

27. (C) Silk farming, is the cultivation of silkworms to produce silk. Although there are several commercial species of silkworms, Bombyx mori is the most widely used and intensively studied silkworm.
- **Sericulture:** The production of raw silk by raising silkwoms.
- **Apicultural:** The keeping of bees especially on a large scale.
- **Pisciculture:** The cultivation of fish.
- **Horticulture:** The science of growing fruits, vegetables, and flowers.

28. (C) The first Education Policy was introduced in 1968 under the Indira Gandhi government following recommendations of the Kothari Commission.

30. (A) Article-315. Public Service Commissions for the Union and for the States.
- Subject to the provisions of this article, there shall be a Public Service Commission for the Union and a Public Service Commission for each State.
- Two or more States may agree that there shall be one Public Service Commission for that group of States, and if a resolution to that effect is passed by the House or, where there are two Houses, by each House of the Legislature of each of those States, Parliament may by law provide for the appointment of a Joint State Public Service Commission (referred to in this Chapter as Joint Commission) to serve the needs of those States.
- Any such law as aforesaid may contain such incidental and consequential provisions as may be necessary or desirable for giving effect to the purposes of the law.
- The Public Service Commission for the Union, if requested so to do by the Governor of a State, may, with the approval of the President, agree to serve all or any of the needs of the State.
- References in this Constitution to the Union Public Service Commission or a State Public Service Commission shall, unless the context otherwise requires, be construed as references to the Commission serving the needs of the Union or, as the case may be, the State as respects the particular matter in question

31. (C) Padmanabha Swamy temple is not only India's but world's richest temple. One of the most famous temples in Trivandrum. Trivandrum is the capital of Kerala, known for its famous and relaxing boat rides. This temple is built in the Dravidian style architecture which is prevalent in southern India; the temple is dedicated to Lord Vishnu.

32. (C) The Comptroller and Auditor General (CAG) of India is an authority, established by Article 148 of the Constitution of India, which audits all receipts and expenditure of the Government of India and the state governments, including those of bodies and authorities substantially financed by the government.
    - **CAG of India:** Rajiv Mehrishi
    - **Nominator:** Prime Minister of India
    - **Appointer:** President of India
    - **Term length:** 6 yrs or up to 65 yrs of age

34. (D) Haryana Chief Minister Manohar Lal Khattar has inaugurated the Hissar Airport, the first civil airport of the state, on August 15.

36. (D) The word 'federal' is not mentioned in the Indian Constitution, but the Article 1 (1) of the Constitution says- "India, that is Bharat, shall be a union of States."

37. (B) Bibek Debroy (born 25 January 1955) is an Indian economist, policy maker, philosopher and author. He is currently serving as the Chairman of the Economic Advisory Council to the Prime Minister. Since its inception in January 2015, Mr. Debroy has been a member of the NITI Aayog, the think tank of Indian Government.

39. (A) Former United Nation Secretary-General Kofi Annan has passed away recently. He was 80. Annan, born in Ghana in 1938, was the founder and chairman of the Kofi Annan Foundation, as well as chairman of The Elders, an international organization founded by Nelson Mandela.

40. (D) The iron pillar of Delhi is a 7 meter kirti stambha (column of victory column), originally erected and dedicated as dhvaja (banner) to Hindu deity lord Vishnu in 3rd to 4th century CE by king Chandragupta II , currently standing in the Qutb Minar at Mehrauli in Delhi, India.

41. (D) Hookworm infection is caused by intestinal blood loss, iron deficiency anemia, and protein malnutrition. They result mainly from adult hookworms in the small intestine ingesting blood, rupturing erythrocytes, and degrading hemoglobin in the host. A particularly vulnerable population is children in low and middle income countries as infection with hookworm can stunt growth and physical fitness and impair and intellectual and cognitive development.

44. (A) Measurement means the comparison of an unknown quantity with some known quantity. This known fixed quantity is called a unit.

45. (B) Objects that emit light on their own are called luminous objects. Best examples of luminous objects are the sun, stars, light bulb etc. Objects that do not reflect light are known as non-luminous objects.

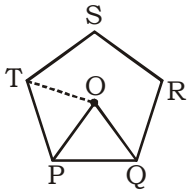
46. (B) Electric cell is a device which produces electric current because of chemical reaction. An electric cell has two terminals; one is called positive (+ ve) while the other is negative (– ve). An electric cell comprises of a metal cap which is the positive terminal. Similarly other side is the negative terminal.

47. (D) Bacteria cause bacterial infections and viruses cause viral infections. Antibiotic drugs usually kill bacteria, but they are not effective against viruses. Diseases caused by viruses include chickenpox, AIDS, polio, influenza and common colds. Infections caused by bacteria include strep throat, tuberculosis, typhoid and urinary tract infections.

48. (D) Ernest Rutherford postulated the nuclear structure of the atom, discovered alpha and beta rays, and proposed the laws of radioactive decay. He received the Nobel Prize in Chemistry in 1908.
    - **1897:** J.J.Thomson discovered the electron
    - **1932:** Chadwick discovered the neutron
    - **1687:** Newton discovered the three laws of motion

50 (B) When a stone is brought to the earth from moon then its weight will change but not the mass. Because, the Moon has less mass than the Earth, so its gravity is less than the Earth's gravity. This means that objects weigh less on the Moon than they do on the Earth.

51. (B)



Joint OT,
Internal angle of polygon

$= \frac{(n-2)180}{n} = \frac{(5-2)180}{5} = 108°$

$\therefore \quad \angle STP = \angle TPQ = 108°$

$\angle OPQ = 60°$ (equilateral Δ)

$\angle TPO = 108° - 60° = 48°$

$\because$ PQ = OP (sides of equilatral Δ)
PT = PQ (Sides of regular pentagon)
$\therefore$ PQ = PO
Now in ΔPOT
$\angle$POT + $\angle$PTO + $\angle$TPO = 180°
$\Rightarrow$ 2$\angle$POT + 48° = 180° ($\because$ PT = PO)
$\Rightarrow$ $\angle$POT = **66°**

52. (C) Speed of train A

$= \frac{180+240}{21} = \frac{420}{21} = 20m/s$

Ratio of speed of train B and train A = 5 : 4

Speed of train B = $\frac{5}{4} \times 20 = 25$ m/sec

When train crosses a stationary object. Then it covers the distance equal to its length.
D = S × T
lenght of train B = 25 × 20 = 500m

53. (B) A.T.Q.,

Acid : Water
I 3 : 2 → 5 — 63
II 4 : 3 → 7 — 315 — 45
III 5 : 4 → 9 — 35

Acid : Water
189 : 126
180 : 135
175 : 140
544 : 401
Required Ratio = 401 : 544.

54. (C) Let, the sum be P.
A.T.Q.,

$7992 = P\left(1+\frac{20}{100}\right)^2 \quad \left(\because amount = P\left(1+\frac{r}{100}\right)^n\right)$

$\Rightarrow$ P = ₹5550

55. (C) Given that,

$x^4 + \frac{1}{x^4} = 322$

$\Rightarrow x^4 + \frac{1}{x^4} + 2 = 322 + 2$

$\Rightarrow \left(x^2 + \frac{1}{x^2}\right)^2 = 324$ [$\because (a+b)^2 = a^2 + b^2 + 2ab$]

$\Rightarrow x^2 + \frac{1}{x^2} = 18$

and, $\left(x - \frac{1}{x}\right)^2 = x^2 + \frac{1}{x^2} - 2$

[$\because (a-b)^2 = a^2 + b^2 - 2ab$]

$\Rightarrow \left(x - \frac{1}{x}\right) = \sqrt{18-2} = 4$

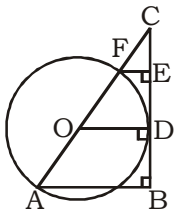
Now, $\left(x - \frac{1}{x}\right)^3 = x^3 - \frac{1}{x^3} - 3\left(x - \frac{1}{x}\right)$

[$\because (a-b)^3 = a^3 - b^3 - 3ab(a-b)$]

$\Rightarrow (4)^3 = x^3 - \frac{1}{x^3} - 3(4)$

$\therefore x^3 - \frac{1}{x^3} = 64 + 12 = 76$

56. (B)



Given FE $\perp$ BC and AB $\perp$ BC
Let the side CF be 'x'
In $\Delta COD \sim \Delta CAB$

$\frac{OD}{AB} = \frac{OC}{AC} \Rightarrow \frac{6}{10} = \frac{6+x}{12+x}$

$\Rightarrow$ 72 + 6x = 60 + 10x
$\Rightarrow$ x = 3
Now, $\Delta CFE \sim \Delta COD$

$\frac{FE}{OD} = \frac{CF}{CO} \Rightarrow \frac{FE}{6} = \frac{3}{9}$

$\Rightarrow$ FE = 2cm or 0.02m.

57. (B) Given,

$x = a(\sin\beta + \cos\beta)$

Squaring both sides,

$$\frac{x^2}{a^2} = \sin^2\beta + \cos^2\beta + 2\sin\beta.\cos\beta$$

$$\Rightarrow \frac{x^2}{a^2} = 1 + \sin 2\beta \text{.....(i)}$$

Similarly,

$y = b(\sin\beta - \cos\beta)$

Squaring both sides,

$$\frac{y^2}{b^2} = \sin^2\beta + \cos^2\beta - 2\sin\beta.\cos\beta$$

$$\Rightarrow \frac{y^2}{b^2} = 1 - \sin 2\beta \text{ .....(ii)}$$

Adding equation (i) and equation (ii),

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 2$$

58. (B) A.T.Q.,

	CP	SP
I	(5	4)3
II	10	15

(CP of first item = SP of second item)

I	15	12
II	10	15
Total	25	27

Now,

27 units = 5400

1 units = 5400/27 = 200

Profit = SP - CP = 27 - 25 = 2

Required answer = 2 × 200 = ₹400

59. (A) A.T.Q. Harsh : Deepak

Work efficiency 5 : 4

Harsh complete his work in 50 days.

∴ Total work = 5 × 50 = 250 units

As given, they follow this pattern to complete the work

4 + 5 + 5 = 14 units in 3 days.

∴ 14 × 17 = 238 units in 3 × 17 = 51 days

Now, next day Deepak will come to work and then Harsh

Work → 238 + 4 + 5 = 247 units

Days → 51 + 1 + 1 = 53

Now work left = 250 - 247 = 3 units

Time taken by Harsh to complete 3 unit = 3/5 days

∴ Total number of days = $53 + \frac{3}{5} = 53\frac{3}{5}$ days

60. (B) Given that,

$x = 2$ is the root of $f(x)$.

∴ $f(x)$ in divisible by $(x - 2)$.

$$\frac{2x^3 - x^2 - 5x - 2}{x - 2} = 2x^2 + 3x + 1$$

Now, find root of quadratic equation

$2x^2 + 3x + 1$

$= 2x^2 + 2x + x + 1$

$= 2x(x + 1) + 1(x + 1)$

$= (2x + 1)(x + 1)$

∴ Required roots are $(-\frac{1}{2}, -1)$

61. (D) LCM of 2, 3, 6 and 11 = 66

$$\begin{array}{r} 66\overline{)999999(15151} \\ \underline{66} \\ 339 \\ \underline{330} \\ 99 \\ \underline{66} \\ 339 \\ \underline{330} \\ 99 \\ \underline{66} \\ 33 \end{array}$$

Remainder →

Required number = 999999 - 33 + 1

= 999967

62. (A) $\text{cosec}^4\theta - \cot^4\theta = 7$

$\Rightarrow (\text{cosec}^2\theta - \cot^2\theta)(\text{cosec}^2\theta + \cot^2\theta) = 7$

$\Rightarrow \text{cosec}^2\theta + \cot^2\theta = 7$

$\Rightarrow 1 + 2\cot^2\theta = 7$

$\Rightarrow \cot^2\theta = 3$

$\Rightarrow \cot\theta = \sqrt{3}$

∴ $\theta = \frac{\pi}{6}$.

63. (A) A.T.Q.,

$$\frac{15 \times 3 + 19x + 21 \times 5 + 45 \times 1}{9 + x} = 21$$

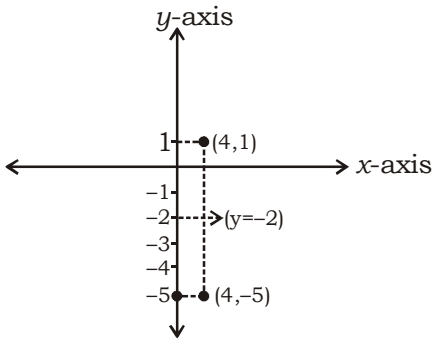
$\Rightarrow 195 + 19x = 21(9 + x)$

$\Rightarrow 21x - 19x = 195 - 189$

$\Rightarrow 2x = 6$

$\Rightarrow x = 3$

64. (C)



∴ Reflection of (4,-5) in the line (y = -2) = (4,1)

65. (A) $a=\frac{1}{3-\sqrt{8}}+\frac{1}{4-\sqrt{15}}-\frac{1}{\sqrt{24}-5}$

$=\frac{1}{3-\sqrt{8}}\times\frac{3+\sqrt{8}}{3+\sqrt{8}}+\frac{1}{4-\sqrt{15}}\times\frac{4+\sqrt{15}}{4+\sqrt{15}}-\frac{1}{\sqrt{24}-5}\times\frac{\sqrt{24}+5}{\sqrt{24}+5}$

$= 3+\sqrt{8}+4+\sqrt{15}-\left(-(\sqrt{24}+5)\right)$

$= 12+2\sqrt{2}+\sqrt{15}+2\sqrt{6}$

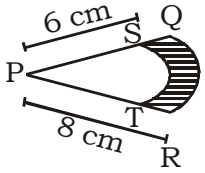
$= 12 + 2.825 + 3.87 + 4.8989 = 23.5969$

$\therefore$ $12 < a < 24$

66. (A) Let the speed of boat be x m/min.
Let the speed of stream be y m/min.
A.T.Q.,
$x + y = 250$
$x - y = 200$
$2x = 450$
$x = 225$ m/min.

$\therefore$ In km/hour = $225 \times \frac{60}{1000} = 13.5\text{km/hour}$

67. (B)



Area of shaded portion

$=\frac{\angle QPR}{360}$[(area of sector PQR) - (area of sector PST)]

$=\frac{\frac{\pi}{12}}{360}\left[\pi(8)^2-\pi(6)^2\right]$

$=\frac{1}{24}\times\frac{22}{7}\times 28=\frac{11}{3}cm^2$

68. (D) Required difference

$=\frac{85+92+88}{3}-88=0.33$

69. (C) Required ratio = 92 + 100 : 94 + 96
= 192 : 190
= 96 : 95

70. (C) A 92 + 96 + 100 = 288
B 90 + 94 + 88 = 272
C 85 + 92 + 88 = 265
D 100 + 97 + 94 = 291
E 90 + 94 + 96 = 280
Highest marks = 291
$\therefore$ D obtained highest marks.

71. (C) Total marks obtained by A and B together
= 288 + 272 = 560
Now, 50% of A and B

$=\frac{50}{100}\times 560=280$

$\therefore$ Student E secored 50% of the total marks obtained by A and B.

72. (B) M.P. of Table = ₹1200
After discount

$=1200\times\frac{100-15}{100}\times\frac{100-33\frac{1}{3}}{100}$ = ₹680

After transportation charge
= ₹680 + ₹70 = ₹750
Now, SP = ₹1000
$\therefore$ Profit%

$=\frac{1000-750}{750}\times 100=\frac{100}{3}=33\frac{1}{3}\%$

73. (C) H.C.F. = 8
$\therefore$ Let the numbers are 8x and 8y respectively.
L.C.M $\Rightarrow$ 8 x.y = 96 (given)

$xy=\frac{96}{8}=12$

Also given,
8x + 8 y = 56
x + y = 7.
$\therefore$ Sum of reciprocal of numbers

$=\frac{1}{8x}+\frac{1}{8y}=\frac{x+y}{8(xy)}$

$=\frac{7}{8(12)}=\frac{7}{96}$

74. (A) $\therefore$ 21 cosA + 20 sinA + 18
Always look for Pythagorean Triplets, we know that (21, 20, 29) is a triplet.

$\therefore$ $29\left(\frac{21}{29}\cos A+\frac{20}{29}\sin A\right)+18$

Let there be a angle B for which

sin B = $\frac{21}{29}$, Cos B = $\frac{20}{29}$

$\Rightarrow$ 29 (sinB cosA + cosBSinA) + 18
$\Rightarrow$ 29 [sin (A + B)] + 18
and, we know that Sin $(A + B)_{max} = 1$
Sin $(A + B)_{min} = -1$
$\therefore$ Maximum value = 29(1) + 18 = 47
Minimum value = 29(-1) + 18 = -11.

75. (B) Required ratio of profit distribution among A, B and C

$= 12 + 2 \times 12 : 18+18\times\frac{2}{3} : 25 + 25$

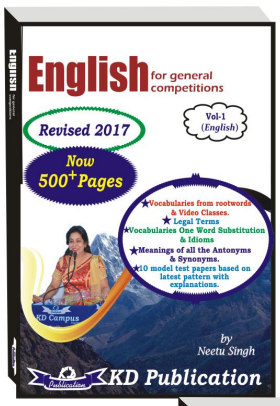
= 36 : 30 : 50
= 18 : 15 : 25

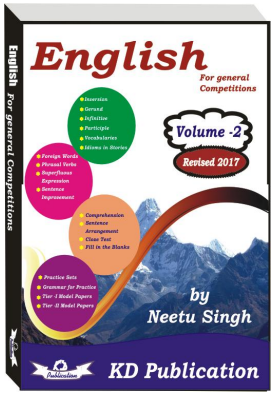
MEANINGS IN ALPHABETICAL ORDER

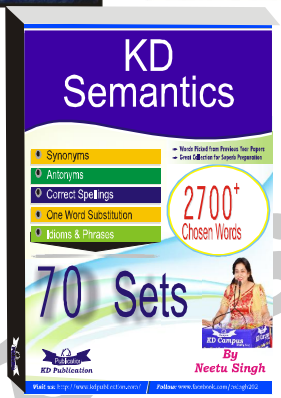
Word	Meaning in English	Meaning in Hindi
Cortege	A line of people or cars moving slowly at a funeral.	अर्थी के साथ की भीड
Forego	To go before; precede.	पूर्वगामी
Folkway	A traditional social custom.	रिवाज
Counterincentive	In direction opposite to	उल्टा
Disincentive	Something that causes or that could cause a person to decide not to do something.	निस्त्रत्साहित
Impulse	A force so as to produce motion suddenly.	आवेग
Impetus	A force that causes something to be done or become to be done or become more active.	प्रोत्साहन
Deterrent	That prevents	रोधक
Expurgate	To remove objectionable parts from.	शोधित करना
Bowdlerize	Remove material that is considered improper	अपशोधन करना
Approve	To accept, allow.	मंजूर
Downcast	Feeling unhappiness.	उदास
Droopy	Lacking strength or spirit.	ताकत की कमी
Gladsome	Having a cheerful disposition.	खुश
Wailing	Deep sorrow; lament.	विलाप
Unprecedented	Not done or experienced before.	अभूतपूर्व
Hackneyed	not original	मामूली
Draper	A dealer in cloth	वस्त्र बेचने वाला
Tinker	A person who travelled in different places and made money by selling or repairing small items	छोटी चीजे ठीक करने वाला
Farrier	A person who shoes horses.	नाल बाँधने वाला
Chicanery	Action or statements that which people into believing something not true	छल
Dovetail	A type of joint used to connect two piece of wood.	लकड़ी के टुकड़े जोड़ने वाला एक जोड़
Battered	Damaged	चकनाचूर
Overwhelmed	To affect very strongly	अभिभूत
Ploy	A clever trick	चाल

SSC MOCK TEST - 162 (ANSWER KEY)

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







76. (C) Remove 'to' before 'grow' because 'Let + Subject + V_{1st} form ' is the correct structure.

77. (B) Replace 'thought' with 'think' because 'must' is a modal auxiliary which takes 'V_1' i.e. first form of verb after it.

79. (A) **Put out:-** To extinguish.

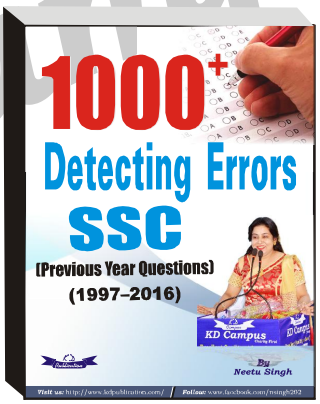
Put down:- To write down.

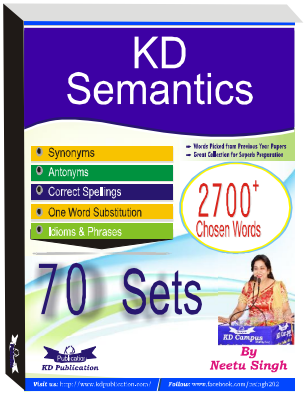
Put up:- To pressure.

Put away:- To renounce.

90. (B) A piece of the action is an idiom which means a part of the profits or advantages that come from an activity.

91. (C) Though-yet is the correct pair of conjuction.





Note:- If your opinion differs regarding any answer, please message the mock test and question number to 8860330003

Note:- Whatsapp with Mock Test No. and Question No. at 7053606571 for any of the doubts. Join the group and you may also share your suggestions and experience of Sunday Mock Test.

Note:- If you face any problem regarding result or marks scored, please contact 9313111777