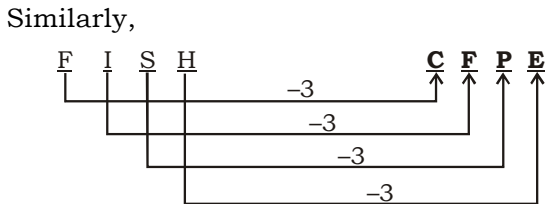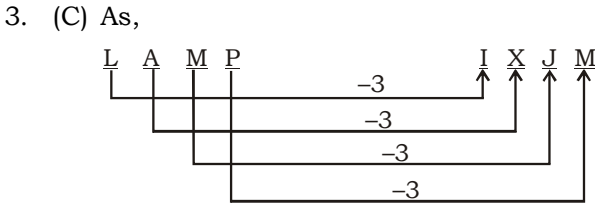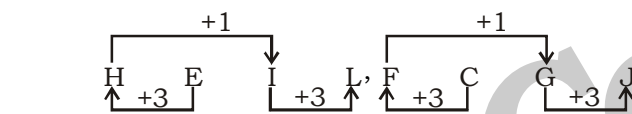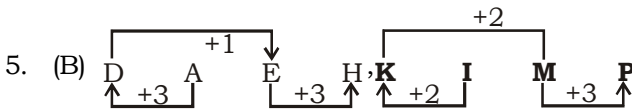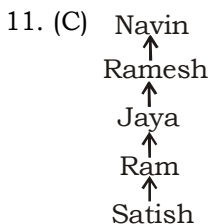# SSC MOCK TEST – 149 (SOLUTION)
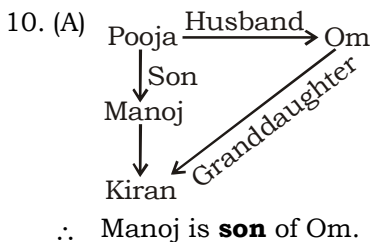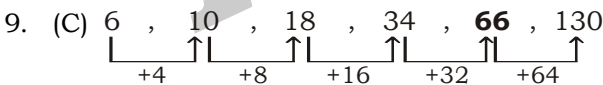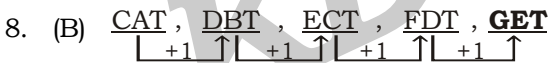
1. (D) As, Cytology is study of Cells.
   Similarly, **Ornithology** is study of Birds.

2. (B) As, 6 × 7 = 42
   7 × 8 = 56
   Similarly, 10 × 11 = 110
   11 × 12 = **132**

3. (C) As,

   Similarly,

4. (D) Except " **Plant**," all others are parts of a plant.

5. (B)

6. (B) Except **35 - 51**, others are pairs of reverse digits.

7. (A) MANIFEST → MERCHANT → MERIDIAN → METICULOUS

8. (B) CAT , DBT , ECT , FDT , **GET**
   +1   +1   +1   +1

9. (C) 6 , 10 , 18 , 34 , **66** , 130
   +4   +8   +16   +32   +64

10. (A)

   ∴ Manoj is **son** of Om.

11. (C)
   Navin
   ↑
   Ramesh
   ↑
   Jaya
   ↑
   Ram
   ↑
   Satish

∴ **Navin** is richest among them

12. (B)

13. (C) As,
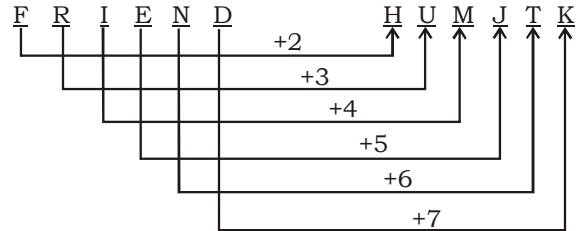
   Similarly,
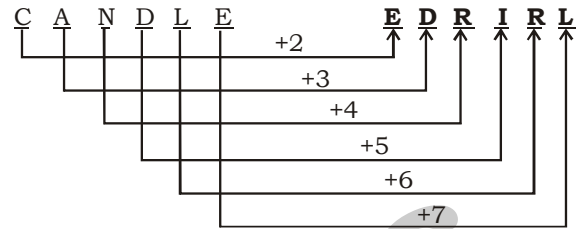
14. (D) 1 4 C 3 A 1 2 E 4 D 2
   After changing the signs, as per the given details,
   14 × 3 – 12 + 4 ÷ 2 = **32**

15. (A)

   2m West
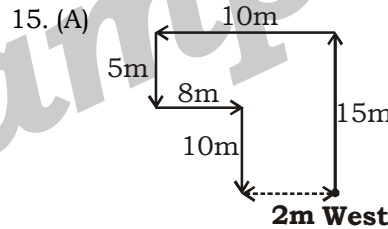
16. (A) (8 × 7) – 6 = 50
   (7 × 6) – 5 = 37
   (6 × 5) – 4 = **26**

17. (A) (2 + 5) – 1= 6
   (6 + 8) – 9 = 5
   (7 + 9) – 8 = **8**

18. (B)

   I. False II. True

   Hence, only conclusion II follows.

19. (C)

20. (D) a**d**cb**a**dc**b**ad**c**b ad **c** b

21. (B) 10 years Ago   :   Now
        3   5
        Difference = 2 units = 10
        ∴ 1 unit = 5
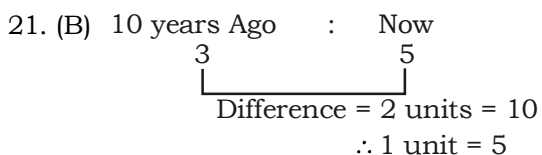
∴ Reena's present age = 5 × 5 = 25 years and Reena's mother present age = 25 × 2 = 50 years

10 years ago, mother's age = 50 – 10 = **40 years.**

22. (A)

23. (B)   24. (C)   25. (D)

26. (A) On February 24, 1739, the Battle of Karnal was fought between the Mughal Emperor Muhammad Shah and the invading Iranian army of Nader Shah. Nader Shah had a crushing victory.

27. (B) Freedom of religion in India is a fundamental right guaranteed by Article 25-28 of the Constitution of India. Modern India came into existence in 1947 and the Indian constitution's preamble was amended in 1976 stating that India is a secular state.

28. (A) Oxybutynin drug is used to treat certain bladder and urinary conditions. It relaxes the muscles in the bladder to help decrease problems of urgency and frequent urination. Oxybutynin belongs to a class of drugs known as antispasmodics.

29. (C) Proteins are synthesized by "gene translators" called Ribosomes, made from Ribosomal RNA genes. Ribosomes "hang around" in the Cytosol, mostly close to the Cell Nucleus and the Endoplasmic Reticulum and Golgi apparatus.

30. (C) Polio is a highly contagious disease caused by a virus that attacks the nervous system. In 1789, the first description of polio was recorded and in 1834, the first documented epidemic occurred on the island of St. Helena. Although polio can cause paralysis and death, the majority of people who are infected with the virus don't get sick and aren't aware they've been infected.

31. (A) The Magadha was one of the most prominent and prosperous kingdoms of mahajanapadas. The capital city Pataliputra (Patna, Bihar) was situated on the confluence of major rivers like the Ganga, Son, Punpun and Gandak. Its earliest capital was Girivraja or Rajagaha (modern Rajgir in the Nalanda district of Bihar). Later on, Pataliputra became the capital of Magadha.

32. (A) Varna, according to Hindu scriptures, refers to the classification of the people based on their qualities. The fourth and final varna according to the Hindu Orthodox system are the Sudras. Their duty is to carry out unskilled tasks, and to serve the higher castes.

33. (D) Length of coastline of India including the coastlines of Andaman and Nicobar Islands in the Bay of Bengal and Lakshadweep Islands in the Arabian Sea is 7516 km. Length of Coastline of Indian mainland is 6100 km.

34. (B) India has a large network of water bodies in the form of rivers, lakes, canals and backwaters. As per The National Waterways Act, 2016, 111 waterways have been declared as National Waterways (NWs) including the five existing NWs.

36. (B) An image that cannot be obtained on a screen is called virtual image. Only real images can be obtained on a screen.

37. (C) Capillary action is the ability of a liquid to flow in narrow spaces without the assistance of, or even in opposition to, external forces like gravity. Examples of capillary action include the uptake of water in paper and plaster, the wicking of paint between the hairs of a paintbrush, and the movement of water through sand.

38. (D) Electronegativity is the measure of the tendency of an atom to attract a bonding pair of electrons. Fluorine is the most electronegative element, while Francium is one of the least electronegative element.

40. (C) A thermoplastic is a plastic material or a polymer, which becomes pliable or moldable above a specific temperature and solidifies upon cooling. Polyethylene, polypropylene, polyvinyl chloride, polystyrene, acrylic, nylon and teflon are examples of thermoplastics.

41. (B) Capacitance is the ability of a component or circuit to collect and store energy in the form of an electrical charge. The SI unit of the physical quantity Capacitance is the farad (symbol: F), named after the English physicist Michael Faraday.

42. (C) The Parliament of India is the supreme legislative body of the Republic of India. In India, three session are conducted every year in the Parliament:
   1. Budget session: February to May
   2. Monsoon session: July to September
   3. Winter session: November to December

43. (C) Indira Gandhi Prize for Peace, Disarmament and Development for the year 2017 has been awarded to Dr. Manmohan Singh on by an international jury headed by former President Pranab Mukherjee.

46. (B) To grow more than one crop in a piece of land during the year is known as multiple cropping. It is the most common way of increasing on a given piece of land. It is a form of Polyculture.

48. (C) National Sample Survey Office (NSSO) is an organization in the Ministry of Statistics and Programme Implementation of the Government of India. NSSO is the largest organization in India conducting socio-economic surveys regularly.

49. (B) Disguised unemployment is, when more number of people work though not needed, extra people's work does not adding to the contribution made by others, this involvement of extra people is disguised unemployment. It usually happens among family members, engaged in agricultural activities.

50. (B) Increase in unemployment is an indicator of a depressed economy. The Great Depression was a severe worldwide economic depression that took place mostly during the 1930s, beginning in the United States.

51. (A)
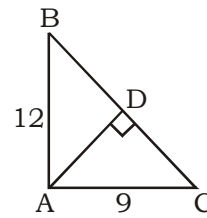
$BC^2 = AB^2 + AC^2 = 12^2 + 9^2 = 15^2$

$\Rightarrow$ BC = 15 km.

AD is the shortest distance from A to BC. So, we have to find AD.

Area of $\Delta ABC = \dfrac{1}{2} \times AD \times BC = \dfrac{1}{2} \times AB \times AC$

$\Rightarrow$ AD × 15 = 12 × 9

$\Rightarrow$ AD = $\dfrac{12 \times 9}{15}$ km.

$\therefore$ Required time = $\dfrac{\text{Distance}}{\text{Speed}} = \dfrac{12 \times 9 \times 60}{15 \times 12}$

= **36 min.**

52. (A) Numbers are :-
   361 × 3 $\Rightarrow$ 1083 + 5 (remainder) = 1088
   361 × 4 $\Rightarrow$ 1444 + 5 (remainder) = 1449
   361 × 5 $\Rightarrow$ 1805 + 5 (remainder) = 1810
   So, there are total **3** numbers.

53. (B) $x + y = 10$
   Squaring both sides,
   $(x + y)^2 = (10)^2$
   $\Rightarrow x^2 + y^2 + 2xy = 100$
   $\Rightarrow x^2 + y^2 + 2 \times 4 = 100$
   $\Rightarrow x^2 + y^2 = 92$
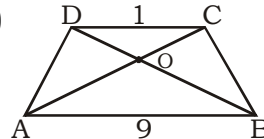   Again, squaring both sides.
   $(x^2 + y^2)^2 = (92)^2$
   $\Rightarrow x^2 + y^4 + 2x^2y^2 = 8464$
   $\Rightarrow x^4 + y^4 = 8464 - 2 \times (4)^2 = $ **8432**

54. (C) Inradius of equilateral $\Delta = \dfrac{a}{2\sqrt{3}}$

   $= \dfrac{12}{2\sqrt{3}} = $ **$2\sqrt{3}$ cm**

55. (D)

AB = 9CD

$\Rightarrow \dfrac{AB}{CD} = \dfrac{9}{1}$

From ΔBAO & ΔDCO,
$\angle OBA = \angle ODC$
$\angle OAB = \angle OCD$
$\angle AOB = \angle COD$
$\therefore \Delta BAO \sim \Delta DCO$

Then, $\dfrac{\text{area }(\Delta DCO)}{\text{area }(\Delta BAO)} = \dfrac{(CD)^2}{(AB)^2} = \dfrac{1}{81} = $ **1:81**

56. (A) $\dfrac{(\cos 50° - \cos 130°)}{(\sin 70° + \sin 10°)}$

= $\dfrac{\cos 50° - (-\cos 50°)}{2 \sin\left(\dfrac{70°+10°}{2}\right)\cos\left(\dfrac{70°-10°}{2}\right)}$

= $\dfrac{\cos 50° + \cos 50°}{2 \sin 40° \cos 30°} = \dfrac{2\cos 50°}{2\sin 40° \cos 30°}$

= $\dfrac{2\cos 50°}{2\cos 50° \times \sqrt{3}/2} = $ **2/√3**

57. (C) Let four members are A, B, C, D and 'D' is the youngest member.

$\therefore \dfrac{A+B+C+D}{4} = 42$

$\Rightarrow$ A + B + C + D = 42 × 4 = 168 years
present age of youngest member 'D' is 15 years.

$\therefore$ The age of family at the time of birth of 'D' is = 168 – 15 × 4
= 168 – 60 = 108

$\therefore$ Average age of 3 members = $\dfrac{108}{3}$ = **36 years**

58. (D)

A	:	B
5	:	7
12 months	:	10 months
Profit 60	:	70
6x	:	7x (Let x = constant)

ATQ,
6x + 7x = 91000
$\Rightarrow$ 13x = 91000

$\Rightarrow$ x = $\dfrac{91000}{13}$ = 7000

$\therefore$ Profit share of B = 7x = 7 × 7000 = **₹49000**

59. (A) ATQ,

$\angle B = \dfrac{\angle A + \angle C}{2}$

$\Rightarrow$ 2∠B = ∠A + ∠C
$\Rightarrow$ ∠B + ∠B – ∠C = ∠A
$\Rightarrow$ ∠B + 20° = ∠A
In ∆ABC,
∠A + ∠B + ∠C = 180°
$\Rightarrow$ ∠B + 20° + ∠B + ∠B – 20° = 180°
$\Rightarrow$ 3∠B = 180°
$\Rightarrow$ ∠B = 60°
Hence, ∠A = ∠B + 20° = 60° + 20° = **80°**

60. (B) $\sin(180 - \theta)\sin(90 - \theta) + \cot(90 - \theta)\sin^2(90 - \theta)$

= $\sin\theta \cos\theta + \tan\theta \cos^2\theta$

= $\sin\theta \cos\theta + \dfrac{\sin\theta}{\cos\theta} \times \cos^2\theta$

= $\sin\theta\cos\theta + \sin\theta\cos\theta = 2\sin\theta\cos\theta = $ **Sin2θ**

61. (B) $\dfrac{8 \rightarrow \text{Interest}}{25 \rightarrow \text{Principal}}$

S.I. = $\dfrac{p \times r \times t}{100}$

$\Rightarrow$ 8 = $\dfrac{25 \times r \times 4}{100}$

$\Rightarrow$ r = **8%**

62. (C) 1st discount = 40%

2nd successive discounts = $25 + 15 - \dfrac{25 \times 15}{100}$
= (40 – 3.75)%

$\therefore$ Difference = 40 – 40 + 3.75 = 3.75%
Hence, Difference in amount = 3.75% of 2000 = **₹75**

63. (D) Let CP = 100%
So, 1st SP = 100 – 8 = 92%
Required SP = 100 + 16 = 116%
ATQ,
92% = 69

$\therefore$ 116% = $\dfrac{69}{92} \times 116 = $ **₹87**

64. (D) 443 × 856 × 44N
last digits are
3 × 6 × N = (N +2)
By choosing option (D)
3 × 6 × 6 = (6+2)
So, required value of N = **6**

65. (B) $1 + \left(\dfrac{1}{2}\right) + \left(\dfrac{1}{3}\right) + \text{--------} + \left(\dfrac{1}{20}\right) = k$

$\Rightarrow \left(\dfrac{1}{2}\right) + \left(\dfrac{1}{3}\right) + \left(\dfrac{1}{4}\right) + \text{--------} + \left(\dfrac{1}{20}\right) = k - 1$
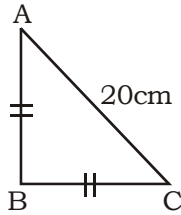
Multiplying both sides by $\dfrac{1}{3}$,

$\Rightarrow \left(\dfrac{1}{6}\right) + \left(\dfrac{1}{9}\right) + \left(\dfrac{1}{12}\right) + \text{-----} + \left(\dfrac{1}{60}\right) = \dfrac{(k-1)}{3}$

66. (C) $\dfrac{(576)^{0.04} \times (576)^{0.16}}{(3)^{0.4} \times (2)^{1.2}}$

= $\dfrac{(576)^{0.2}}{(3)^{0.4} \times (2)^{1.2}}$

= $\dfrac{(24^2)^{0.2}}{(3)^{0.4} \times (2^3)^{0.4}} = \dfrac{(24)^{0.4}}{(3)^{0.4} \times (8)^{0.4}} = \dfrac{(24)^{0.4}}{(24)^{0.4}} = $ **1**

67. (D)

In $\triangle ABC$,

$AB^2 + BC^2 = AC^2$

$\Rightarrow AB^2 + AB^2 = (20)^2$ $[\because AB = BC]$

$\Rightarrow 2AB^2 = 400$
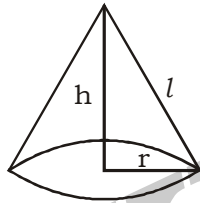
$\Rightarrow AB^2 = 200$

$\Rightarrow AB = 10\sqrt{2}$ cm

Welnow that,

Inradius (r) = $\dfrac{AB + BC - AC}{2}$

$= \dfrac{10\sqrt{2} + 10\sqrt{2} - 20}{2}$

$= \dfrac{20\sqrt{2} - 20}{2} = \dfrac{20(\sqrt{2} - 1)}{2} = \mathbf{10(\sqrt{2} - 1)cm}$

68. (A)

Given,

$h = 7\sqrt{2}$ cm

and, $\pi r^2 = 308$

$\Rightarrow r^2 = \dfrac{308 \times 7}{22}$

$\Rightarrow r = 7\sqrt{2}$ cm

$\therefore l = \sqrt{h^2 + r^2} = \sqrt{(7\sqrt{2})^2 + (7\sqrt{2})^2} = \sqrt{98 + 98}$

$= 14$ cm.
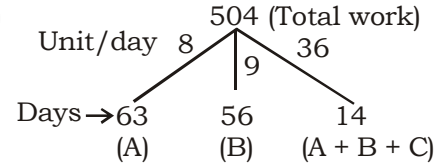
Curved Surface area of cone = πrl

$= \dfrac{22}{7} \times 7\sqrt{2} \times 14$

$= \mathbf{435.50 \ cm^2}$

69. (C)

C's one day work = (A + B + C) – (A + B)

= 36 – (8 + 9) = 19 units/day

So, C will complete $\dfrac{19}{21}$ part of work in

$\dfrac{504}{19} \times \dfrac{19}{21} = \mathbf{24 \ days}$

70. (D) Third proportional = $\dfrac{24 \times 24}{8} = \mathbf{72}$

71. (C) Odd numbers between 3 and 45 are 5,7, 9 ....41, 43.

No of all odd numbers = 20

Sum = $\dfrac{n}{2}[2a + (n-1)d]$

$= \dfrac{20}{2}[2 \times 5 + (20 - 1)2]$

$= 10[10 + 38]$

$= 480$

$\therefore$ Required average = $\dfrac{480}{20} = \mathbf{24}$

72. (A)

Old ratio $\rightarrow$ 7   :   8

$\downarrow +14\frac{2}{7}\% = \frac{1}{7}$ $\downarrow -12\frac{1}{2}\% = \frac{1}{8}$

New ratio $\rightarrow$ **8**   :   **7**

73. (B) Percentage increase = $\dfrac{7500 - 5300}{5300} \times 100$

$\Rightarrow \dfrac{2200}{5300} \times 100 = \mathbf{41.5\%}$

74. (A) Profit (1996 – 97) = 8500 – 8000 = 500

$\Rightarrow$ Profit% = $\dfrac{500}{8500} \times 100 \Rightarrow \dfrac{500}{85} = \mathbf{5.9\%}$

75. (C) Let gross traffic recipts = 100

Profit = 10

Total expenditure = 90

$\therefore \quad 90 \rightarrow 5800$

$\Rightarrow \quad 1 \rightarrow \dfrac{5800}{90}$

$\Rightarrow \quad 100 \rightarrow \dfrac{5800}{90} \times 100 = \mathbf{6,444}$

MEANINGS IN ALPHABETICAL ORDER

| Word	Meaning in English	Meaning in Hindi
Abattoir	a place where animals are slaughtered for consumption as food	कसाई खाना
Canny	very clever and able to make intelligent decisions	चतुर, चालाक
Complement	to complete something else or make it better	पूरक
Conscious	aware of something (such as a fact or feeling)	सचेत
Contemptuous	showing deep hatred or disapproval	घृणा युक्त
Delineate	to clearly show or describe something	वर्णन करना
Dutiful	doing what is expected of you	कर्त्तव्य परायण
Exhort	to strongly encourage	प्रेरित करना
Germane	relating to a subject in an appropriate way	सार्थक
Impervious	not allowing fluid to pass through	अप्रवेश्य, न घुसने योग्य
Indiscreet	not showing good judgement	अविवेकी
Keen	very excited about and interested in something	इच्छुक
Obstinate	refusing to change your behaviour or your ideas	हठी, जिद्दी
Reliable	able to be believed	विश्वसनीय
Remiss	not showing enough care and attention	बेपरवाह, असावधान
Repressible	controlling yourself to do or express something	दमनशील
Reprimand	to speak in an angry and critical way to someone	डाँटना, फटकारना
Sardonic	showing little respect in a humorous but unkind way	तिरस्कार पूर्ण
Subconscious	existing in the part of the mind that a person is not aware of	अचेतन

SSC MOCK TEST - 149 (ANSWER KEY)

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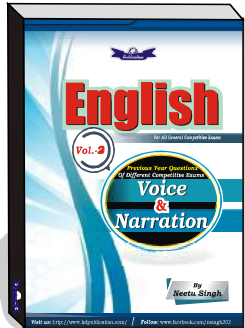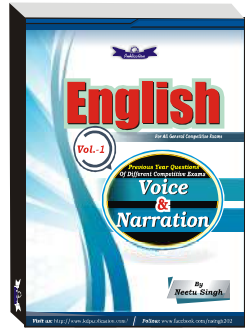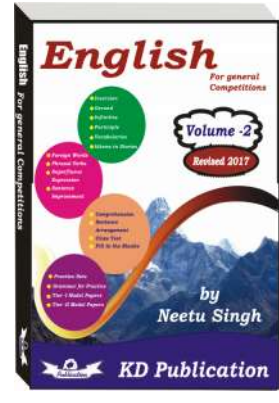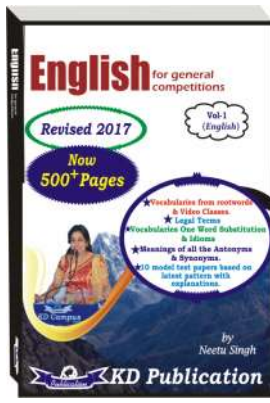
76. (C) Change 'have' into 'had'. The word 'missed' in the sentence indicates that sentence is in the Past tense hence later part of the sentence should also be in the Past Tense.

77. (B) Change 'their' into its. The possessive adjective of 'bitcoin's current price' should be used in the sentence.

86. (D) No improvement. When the two subjects are added with 'along with' then the verb agrees with the first subject. Here in the sentence 'Ram' is singular hence singular verb should be used.

87. (B) 'should have is' is the correct option. Here 'should have' is used for a chief executive candidate and 'is' is used for the most important quality.

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