SSC MOCK TEST – 165 (SOLUTION)

1. (B) As, Penalty is term used in football. Similarly, free hit is a term used in **Cricket** .

2. (C) As, $\underset{+11}{K I G} : V T R$

   Similarly, $\underset{+11}{N L J} : \textbf{Y W U}$

3. (D) $2220 : 84 \rightarrow (22)^2 - (20)^2 = 84$
   Similarly, $4442 : 172 \rightarrow (44)^2 - (42)^2 = \textbf{172}$

4. (A) Except **Furniture**. others are different kinds of furniture.

5. (D) $\underset{+2 \quad +3}{I \quad K \quad N} \quad \underset{+2 \quad +3}{P \quad R \quad U}$

   $\underset{+2 \quad +3}{E \quad G \quad J} \quad \underset{\textbf{+2} \quad \textbf{+2}}{\textbf{L} \quad \textbf{N} \quad \textbf{P}}$

6. (C) $\sqrt{625} = 25$

   $\sqrt[3]{125} \times \sqrt{5} \times \sqrt{5} = 5 \times 5 = 25$

   $5 \times 5 \times \sqrt{5} = \textbf{25}\sqrt{\textbf{5}}$

   $\sqrt{5} \times \sqrt{5} \times 5 = 25$

7. (D) Do, Her, Hand, First, School, **Correct**

8. (A) $\underset{+7 \quad +12 \quad +22 \quad +37 \quad +57}{18 , 25 , 37 , 59 , 96 , \textbf{153}}$
   $+5 \quad +10 \quad +15 \quad +20$

9. (C) $\underset{+2 \quad +2 \quad +2 \quad +2}{AbE, cDg , EfI , gHk , \textbf{IjM}}$

10. (C)

11. (D) First we count the number of odd days left in the given period.
   Here, given period is 15th April to 20th Oct.

	April	May	June	July	Aug	Sep	Oct
(Days left)	15	31	30	31	31	30	20
(odd days)	1	3	2	3	3	2	6 = 20

   Here, there are 6 odd days.
   So, given day is Wednesday + 6 days
   = **Tuesday**

12. (C) '**Abduct**' cannot be formed by using the letters of the word Abstractedly.

13. (A) As, S U M M E R   U S O K G P
   +2, −2, +2, −2, +2, −2

14. (D) $25 + 10 - 45.5 \times 3 \div 12$
   After inter-changing the signs as per given details.
   $25 \div 10 + 45.5 \times 3 - 12$
   $= 2.5 + 136.5 - 12$
   $= \textbf{127}$

15. (C) As,
   $89 \alpha 23 = 12 \rightarrow (8 + 9) - (2 + 3) = 12$
   and $74 \alpha 32 = 6 \rightarrow (7 + 4) - (3 + 2) = 6$
   Similarly, $59 \alpha 41 = \rightarrow (5 + 9) - (4 + 1) = \textbf{9}$

16. (C) As, $(28, 79, 41, 31) \rightarrow (2 + 8 + 7 + 9 + 4 + 1) = 31$
   and $(15, 23, 73, 21) \rightarrow 1 + 5 + 2 + 3 + 7 + 3 = 21$
   Similarly, $(29, 28, 92, ?) \rightarrow 2 + 9 + 2 + 8 + 9 + 2 = \textbf{32}$

17. (B)

   ∴ Q is **8 km, north** from P.

18. (A)

   I. True
   II. False
   ∴ **Conclusion I follows**.

19. (D)

20. (A)

21. (B)
22. (A)
23. (B)
24. (D)
25. (C)

N	I	G	H	T
↓	↓	↓	↓	↓
01	**40**	**32**	**02**	**87**

Similarly,
D R I V E   **F P K T G**
+2, −2, +2, −2, +2

26. (A) Gangetic Dolphin is the National Aquatic Animal of India. This mammal is also said to represent the purity of the holy Ganga as it can only survive in pure and fresh water. River dolphin is a critically endangered species in India and therefore, has been included in the Schedule -I for the Wildlife (Protection) Act, 1972.

Some important National Symbols of India:
- National Anthem of India: Jana Gana Mana
- The National Tree of India: The Banyan
- National Heritage Animal of India: Elephant
- National Reptile of India: King Cobra

27. (A) Sapha Har Movement began in 1868 led by Santhals. It was initiated by Bhagrit Manjhi. Sapha Har Movement is also known as Kherwar Movement. This movement had popularized the concept of One God as well as aimed at social reform. He demanded that a Santal Raj should be introduced.

28. (A) Mahila Kisan Sashaktikaran Pariyojana (MKSP) is a sub-scheme of DAY-NRLM and it aims at empowering women engaged in agriculture, livestock, NTFP and allied activities by making systematic investments in building the knowledge, skills and capacities of women farmers to enhance their participation, improve productivity and pursue sustainable livelihoods. MKSP also aims at creating a large number of best practices in farm livelihoods that could be scaled-up with the help of NGOs, CBOs and government agencies.

29. (A) The National Flag of India was adopted in its present form during the meeting of Constituent Assembly held on 22nd July 1947, a few days before India's independence from the British on 15th August, 1947.

National Flag of India
- Title: Tricolour / Tiranga
- Colors: Saffron, White and Green; Navy Blue in the Askoka Chakra
- Dimension ratio: 2:3
- Material: Khadi, Cotton or Silk
- Designed by: Pingali Venkayya
- Manufactured by: Khadi Development and Village Industries Commission

31. (A) The Eighth Schedule of the Constitution of India lists the official languages of the Republic of India. (Art. 344(1) and Art.351) it includes 22 languages.

32. (D) Economic Planning is to make decision with respect to the use of resources. Economic Planning is a term used to describe the long term plans of Govt. to coordinate and develop the economy.

Objectives of Economic Planning-
- Economic Growth
- Reduction of Economic Inequalities of income
- Balanced Regional Development
- Modernization
- Increase in employment

33. (A) Gir Forest National Park and Wildlife Sanctuary, also known as Sasan Gir, is a forest and wildlife sanctuary near Talala Gir in Gujarat, India. It was established in 1965. Gir National Park is not a Tiger Reserve of India.

36. (A) The earliest Greek known to have made a map of the world was Anaximander. In 6th century BC, he drew a map of the then known world, assuming that the earth was cylindrical.

38. (A) A cloud is a visible accumulation of minute droplets of water, ice crystals or both, suspended in the air. Though they vary in shape and size, all clouds are basically formed in the same way through the vertical of air above the condensation level.
- The list of cloud types classifies the tropospheric genera as high (cirrus, cirrocumulus, cirrostratus), middle (altocumulus, altostratus), multi-level (nimbostratus, cumulus, cumulonimbus), and low (stratocumulus, stratus) according to the altitude level or levels at which each cloud is normally found.

40. (B) The Bureau of Police Research and Development (BPR&D), was set up on 28th August 1970 in furtherance of the objective of the Government of India for the modernization of police forces. It has evolved as a multifaceted, consultancy organization. At present it has 4 divisions – Research, Development, Training and Correctional Administration.

41. (C) The retina is a thin layer of tissue that lines the back of the eye on the inside. It is located near the optic nerve. The purpose of the retina is to receive light that the lens has focused, convert the light into neural signals, and send these signals on to the brain for visual recognition.

42. (A) An amalgam is an alloy of mercury with Silver, Copper metal, which may be a liquid, a soft paste or a solid, depending upon the proportion of mercury. Silver-Mercury amalgams are important in dentistry, and gold-mercury amalgam is used in the extraction of gold from ore.

43. (A)
   - The **Arjuna Awards** is given by the Ministry of Youth Affairs and Sports, Government of India to recognize outstanding achievement in **sports**. Started in 1961, the award carries a cash prize of ₹500,000, a bronze statue of Arjuna and a scroll.
   - **Bharat Ratna** is the highest civilian award of the country. The award was started by the I[st] President of India Rajendra Prasad on 2nd January, 1954. The awards are announced on the occasion of Republic Day every year. The Awards are given in **various disciplines/ fields** of activities, viz. - art, social work, public affairs, science and engineering, trade and industry etc.
   - The **Ashoka Chakra** is India's highest peacetime military decoration awarded for valour, courageous action or self-sacrifice away from the battlefield. The decoration may be awarded either to **military or civilian personnel**. Ashok Chakra is equivalent to US Army's peacetime Medal of Honour and the British George Cross.
   - **Bal Sahitya Puruskar** given each year since 1955 by Sahitya Akademi **to writers** and their works, for their outstanding contribution to the upliftment of **Indian literature and Hindi literature** in particular.

45. (B) Nuclear fusion is the process by which two light atomic nuclei combine to form one heavier atomic nucleus. As an example, a proton and a neutron can be made to combine with each other to form a single particle called a deuteron.

47. (A) The India Gate (originally called the All India War Memorial) is a war memorial located astride the Rajpath, on the eastern edge of the "ceremonial axis" of New Delhi, India, formerly called Kingsway. It was built by Edwin Lutyens In 1921. The building is made of red stone that rises in stages into a huge moulding. On top of the arch, INDIA is written on both sides. Names over 70,000 Indian soldiers are inscribed on the walls of the monument in whose memory it was built. There is a shallow domed bowl at the top, which was intended to be filled with burning oil at special occasions.

50. (A) A steam engine is one type of external combustion engine. In a steam engine, a fuel such as coal is burned in the combustion chamber. The steam engine was developed over a period of about a hundred years by three British inventors. The first crude steam powered machine was built by Thomas Savery, of England, in 1698. Savery built his machine to help pump water out of coal mines.

51. (A)
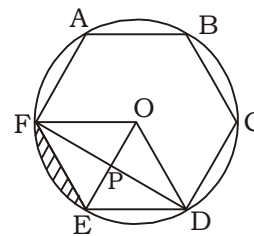
Let the side of regular hexagon be x.
The shortest diognal is FD.
FD = FP + PD
ΔFOE and ΔEOD are equilatral triangles.
So, FP and PD are altitudes of equilatral triangles.

$$FP = \frac{\sqrt{3}}{2}x$$

Shortest diagonal = FP + PD = FD = $\left(\frac{\sqrt{3}}{2}x\right) \times 2$

$$= \sqrt{3}\,x$$

A.T.Q,

$\sqrt{3}\,x = 3\sqrt{3}$ cm

x = 3cm.

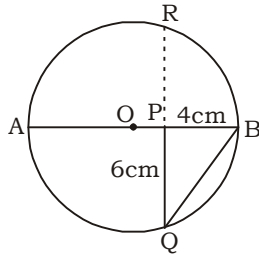Radius of circle = 3cm.

Area of shaded region = $\frac{1}{6}$

(Area of circle − Area of hexagon)

$$= \frac{1}{6}\left(\pi(3)^2 - 6 \times \frac{\sqrt{3}}{4}(3)^2\right)$$

$$= \frac{1}{6}\left(9\pi - \frac{27\sqrt{3}}{2}\right)$$

$$= \frac{3}{2}\left(\pi - \frac{3\sqrt{3}}{2}\right)\textbf{cm}^2$$

52. (C)

Let's produce the QP to meet circle at R.

∴ PQ = PR = 6cm (As perpendicular to diameter)

Now, AP × PB = PQ × PR

⇒ AP × 4 = 6 × 6

⇒ AP = 9 cm

AB = AP + PB = 9 + 4 = 13cm

radius of circle = $\dfrac{13}{2}$ cm

Area of circle = $\pi r^2 = \dfrac{22}{7} \times \dfrac{13}{2} \times \dfrac{13}{2}$

= 132.78 ≅ **133cm²**

53. (D)
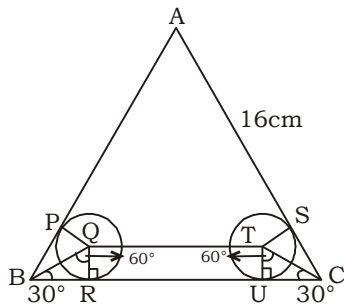
In ΔTUC,

$\angle TCU = \dfrac{\angle C}{2} = \dfrac{60°}{2} = 30°$

$\tan 30° = \dfrac{TU}{UC}$

⇒ $\dfrac{1}{\sqrt{3}} = \dfrac{2}{UC}$

⇒ $UC = 2\sqrt{3}$ cm.

Similarly,

In ΔBRQ

$\angle QBR = \dfrac{\angle B}{2} = \dfrac{60°}{2} = 30°$

$\tan 30° = \dfrac{QR}{BR} \Rightarrow \dfrac{1}{\sqrt{3}} = \dfrac{2}{BR} \Rightarrow BR = 2\sqrt{3}$ cm.

Side of new triangle = $16 - (2\sqrt{3} + 2\sqrt{3})$

= $16 - 4\sqrt{3}$

= **4(4 – $\sqrt{3}$) cm.**

54. (C)

In ΔPQR,
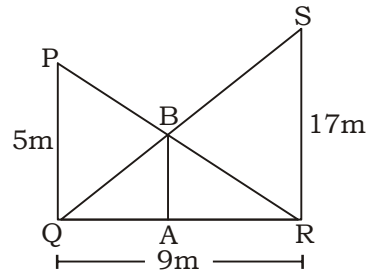
ΔRBA ~ ΔRPQ

$\dfrac{RA}{RQ} = \dfrac{AB}{PQ} \Rightarrow \dfrac{RA}{9} = \dfrac{AB}{5}$ ...(i)

Similarly, In ΔSRQ,

ΔQAB ~ ΔQRS

$\dfrac{AB}{RS} = \dfrac{QA}{QR} \Rightarrow \dfrac{QA}{9} = \dfrac{AB}{17}$ ...(ii)

Adding eq(i) and eq(ii),

$\dfrac{QA}{9} + \dfrac{RA}{9} = \dfrac{AB}{17} + \dfrac{AB}{5}$

⇒ $\dfrac{9}{9} = AB\left(\dfrac{1}{5} + \dfrac{1}{17}\right)$

⇒ $1 = AB\left(\dfrac{22}{85}\right)$

⇒ AB = $\mathbf{\dfrac{85}{22}}$ **cm.**

55. (B) Required percentage = $\dfrac{100 - 20}{20} \times 100$

= **400%**

56. (C) A.T.Q,

$a_5 = a_1 + 4d$ and $a_{13} = a_1 + 12d$

⇒ $-18 = a_1 + 4d$ ...(i)

⇒ $38 = a_1 + 12d$ ...(ii)

Subtracting eq. (i) and from eq. (ii)

$38 -(-18) = a_1 + 12d - a_1 - 4d$

⇒ $56 = 8d$

⇒ $d = 7$

Putting 'd' in eq (i),

$-18 = a_1 + 4(7)$

$-46 = a_1$

Now,

$a_{15} = a_1 + 14d$

= $-46 + 14(7)$

= **52**

57. (B)
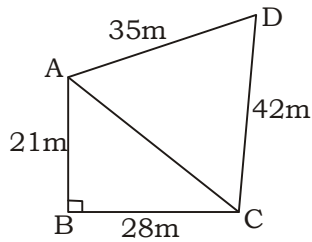
∠ABC = 90°

AC = $\sqrt{AB^2 + BC^2}$ = $\sqrt{21^2 + 28^2}$ = 35 m

Now, area of ΔABC = $\frac{1}{2}$ × AB × BC

= $\frac{1}{2}$ ×28×21= 294 m²

Now, In ΔADC

S = $\frac{35 + 35 + 42}{2} = \frac{112}{2}$ = 56m

Area of ΔADC

= $\sqrt{56(56-42)(56-35)(56-35)}$

= $\sqrt{56 \times 14 \times 21 \times 21}$

= 14 × 2 × 21 = 588m²

∴ Required area = 294 + 588 = **882m²**

58. (A) Let the unit digit and tens digit of number be x and y.

Number = $10y + x$

A.T.Q

$10x + y = 10y + x + 27$

⇒ $x - y = 3$ ...(i)

⇒ $x + y = 9$ ...(ii) ...(given)

From eq. (i) and eq. (ii), we get

$x = 6$

and, $y = 3$

∴ Required number = 10(3) + 6

= 36

59. (C) L.C.M of 63 and 36 = 252

H.C.F of 63 and 36 = 9

Required product = 252 × 9 = **2268**

60. (A) 5 × 0.5 × 0.05 × 0.005 × 0.0005 × 50

= $\left(\frac{25}{1000}\right)^3$ = **(0.025)³**

61. (C) Required average height= $\frac{33 \times 137 + 47 \times 157}{33 + 47}$

= **148.75 cm**.
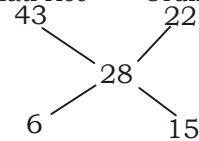
62. (B) Average speed = $\frac{\text{Total Distance}}{\text{Total time}}$

= $\frac{60 + 75}{\frac{60}{12} + \frac{75}{15}} = \frac{135}{10}$ = **13.5km/h**.

63. (D) Let the basmati rice mixed be 'x' kg. Shopkeeper makes 25% profit.

So, CP = $\frac{4}{5}$ × 35 = ₹ 28

A.T.Q,
```
Basmati rice      Ordinary rice
    43                22
          28
     6                15
```
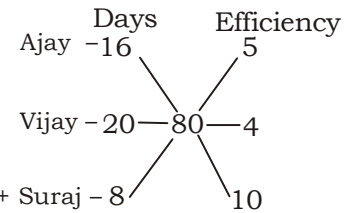
They were mixed in ratio 2 : 5

Given 5 → 35 kg

1 → 7 kg

Required quantity = 2 × 7 = **14kg**.

64. (B)
```
        Days          Efficiency
Ajay  -16               5
Vijay - 20—80—4
Ajay + Vijay + Suraj – 8       10
```

Efficiency of suraj to complete the work = 10 – 5 – 4 = 1

∴ Required Amount = $\frac{1}{10}$ × 14375

= **₹1437.5**

65. (B) C.I = $P\left(\left(1+\frac{r}{100}\right)^T - 1\right)$

C.I = $45000\left(\left(1+\frac{10}{100}\right)^3 - 1\right)$

= $45000\left(\frac{1331}{1000} - 1\right)$

= ₹14895

S.I = $\frac{63000 \times 10 \times 6}{100}$ = ₹37800

Required percentage = $\frac{14895}{37800} \times 100$

= **39.40%**

66. (C) $2\sin x + \cos x = \frac{\sqrt{3}}{2}$

$\sin x - 2\cos x = \sqrt{(2)^2 + (1)^2 - \left(\frac{\sqrt{3}}{2}\right)^2}$

= $\sqrt{5 - \frac{3}{4}}$ = $\frac{\sqrt{17}}{2}$

67. (A) A.T.Q,

$x^2 + 2(1 + k)x + k^2 = 0$

If it has equal roots, then D = 0.

$(2(1+k))^2 - 4(1)k^2 = 0$

⇒ $4(1 + k^2 + 2k) - 4k^2 = 0$

⇒ $4 + 4k^2 + 8k - 4k^2 = 0$

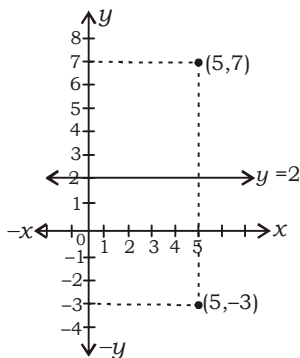⇒ $k = \frac{-1}{2}$

68. (D) $\dfrac{x}{y} = \dfrac{5}{3}$ ...given

Putting x and y in $\dfrac{5x - 3y}{7x + 4y - 2xy}$

$= \dfrac{5(5) - 3(3)}{7(5) + 4(3) - 2(5)(3)}$

$= \dfrac{25 - 9}{35 + 12 - 30}$

$= \dfrac{\mathbf{16}}{\mathbf{17}}$

69. (B)

$\therefore$ Reflection of the point (5, –3) on $y = 2$ is **(5, 7)**.

70. (C) $x + \dfrac{1}{x} = 8$ ...(given) ...(i)

In equation, divide numerator and denominator by x

$\dfrac{\dfrac{3x}{x}}{\dfrac{7x^2 - 5x + 7}{x}} = \dfrac{3}{7\left(x + \dfrac{1}{x}\right) - 5}$ ..(ii)

Putting eq. (i) in eq. (ii),

$= \dfrac{3}{7(8) - 5} = \dfrac{3}{56 - 5} = \dfrac{3}{51} = \dfrac{\mathbf{1}}{\mathbf{17}}$

71. (C) $\dfrac{(\sin x + \sin y)(\sin x - \sin y)}{(\cos x + \cos y)(\cos y - \cos x)}$

Putting $x = 90°$ and $y = 0°$
We get

$= \dfrac{(\sin 90° + \sin 0°)(\sin 90° - \sin 0°)}{(\cos 90° + \cos 0°)(\cos 0° - \cos 90°)}$

$= \dfrac{(1 + 0)(1 - 0)}{(0 + 1)(1 - 0)} = \mathbf{1}$

72. (A) Amount spent on rent = 15%
Amount spent on transport and food
= 22% + 8% = 30%
A.T.Q,
30% – 15% = ₹6000
$\Rightarrow$ 15% = 6000
$\Rightarrow$ 1% = $\dfrac{6000}{15}$ = ₹400
$\therefore$ His monthly expenses = 400 × 100
= **₹40,000**.

73. (B) Expenditure on picnic
= 40% of 'others' = $\dfrac{40}{100}$ × 35 = 14% of
total expenses.
A.T.Q.
14% = ₹2800.
$\therefore$ expenditure on transport = $\dfrac{2800}{14}$ × 8
= **₹1600**.

74. (D) Total expenditure of rent and 'others'
= 15% + 35% = 50%
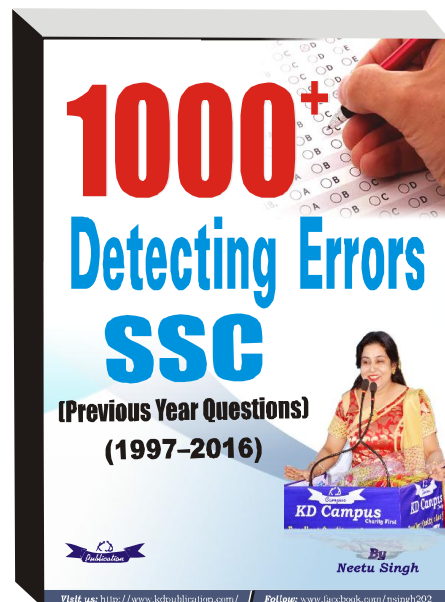$\therefore$ Required angle = $\left(\dfrac{50}{100} \times 360°\right)$ = **180°**

75. (C) Decrease in expenditure on 'others'
= 10500 – 10290 = ₹210
Initial expenditure on clothes
= $210\left(\dfrac{100}{10}\right)$ = ₹2100.
$\therefore$ Required percentage = $\left(\dfrac{2100}{10,500}\right) \times 100$
= **20%**

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Reveal	to make (something secret or hidden) publicly or generally known	उजागर करना
Extrapolate	to form an opinion or to make an estimate about something from known facts	राय बनाना
Vacillate	hesitate in choice of opinions or courses	झूमना, डगमगाना
Scruple	a feeling of guilt from doing something bad	पछतावा
Deduce	to figure out by using reason or logic	परिणाम निकालना
Elate	to fill with joy or pride	प्रफुल्लित
Exhilarate	to make cheerful or excited	आनन्दित करना
Enervate	to make (someone or something) very weak	कमजोर करना
Faze	to cause (someone) to feel afraid	हतोत्साहित करना
Hollow	not solid	खोखला
Alveolate	pitted like a honeycomb	छिद्रिल
Cavernous	resembling a large cave	गुफानुमा
Cleft	a narrow space in the surface of something	दरार
Astringe	to bind together	बाँधना
Constringe	to cause to shrink	संकुचित करना
Tauten	to make (something) tight or taut or to become tight or taut	कसना
Liberate	to free (someone or something) from being controlled by another person, group, etc.	मुक्त करना
Pact	a formal agreement between two countries	समझौता
Palter	to act insincerely or deceitfully	चाल चलना
Conventicler	an assembly of an irregular or unlawful character	धर्मसंघ
Ouch	used especially to express sudden pain	हाय! उफ!
Darn	to mend by sewing	रफू करना
Immanent	indwelling, inherent	समाया हुआ
Esteem	respect and affection	आदर, सम्मान

SSC MOCK TEST - 165 (ANSWER KEY)

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

76. (C) Change 'have' into 'has'. Relative pronouns (who/ which/ that) take a verb, according to their antecedent and here, the antecedent of 'that' is 'a specific cause'.

77. (B) Change 'develop' into 'developed'. According to the meaning of the sentence, here, we need (V3- Form) past Participle.

90. (B) 'He is better suited' is the correct option. Superlative degree is used for the comparison among three or more than three. Comparative degree is used for the comparison between two. 'Two candidates' in the sentence indicates that we should use comparative degree for comparing two object.

91. (C) 'Any more' is used in questions and the negative sentences. 'No more' is used in affirmative sentences. Hence, 'Any more' is an appropriate option.

92. (D)

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