SSC MOCK TEST – 75 (SOLUTION)

1. (C)

C   E   H   F
|_position_| |_position_|
3   5   8   6
↓+1 ↓−1   ↓+1 ↓−1
4   4   **9**   **5**

2. (D) Ramcharitmanas was written by Tulsidas and Mahabharat was written by **Vedvyas**.

3. (B) $52 \square 5^2 \times 2^3 = 25 \times 8 = 200$
   $43 \square 4^2 \times 3^3 = 16 \times 27 = $ **432**

4. (B) As, R P Q M   U M O P
   +3, −3, −2, +3

   Similarly, S T A R   **V Q Y U**
   +3, −3, −2, +3

5. (D) Except (D), others are perfect cube.

6. (D) Except **fish**, other lives on both land and water.

7. (A) Except (A), In others the two given numbers are squares of consecutive natural number.

8. (C) First letter moves 3 step forward and second letter moves 2 step backward.

9. (C) RED $\square$ DER $\square$ 4 - 5 - 18 $\square$ 6 - 7 - 20
   GREEN $\square$ NEERG $\square$ 14 - 5 - 5 - 18 - 7 $\square$ 16 - 7 - 7 - 20 - 9

10. (B) The order from the tallest to the shortest would be-
    Beena $\overset{23}{11}$ Reena $\overset{23}{11}$ Chitra $\overset{23}{11}$ Sheena $\overset{23}{11}$ **Meena**

11. (D) Hair $\overset{23}{11}$ Skin $\overset{23}{11}$ Flesh $\overset{23}{11}$ Bone $\overset{23}{11}$ Marrow

12. (C)

17 kms
15 kms   15 kms
17 kms

13. (B)

B (Mother)
E (Wife) → D → C (Brother)
Daughter
H

C is **brother-in-law** of E.

14. (A) $\sqrt{\sqrt{256 \times 81}} = \sqrt{16 \times 9} = 12$

$\sqrt{\sqrt{16 \times 625}} = \sqrt{4 \times 25} = 10$

$\sqrt{\sqrt{625 \times 81}} = \sqrt{25 \times 9} = $ **15**

15. (C) $\sqrt{8 + 5 + 12} = \sqrt{25} = 5$

$\sqrt{14 + 16 + 6} = \sqrt{36} = 6$

$\sqrt{22 + 19 + 23} = \sqrt{64} = $ **8**

16. (A) a **b**/n **c** b/ **a b**/ n c b/ **a b**/ n c b

17. (C) Number of squares
    $= 1^2 + 2^2 + 3^2 + 4^2 + 5^2 = $ **55**

18. (B)

19. (A) 13   15   18   23   30   41   **54**
    +2   +3   +5   +7   +11   +13

20. (B) $13 \times 1 + 2 = 15$
    $15 \times 2 + 3 = 33$
    $33 \times 4 + 4 = 136$
    136 $\times 8 + 5 = 1093$

21. (C) 225   625   1225   2025   3025   **4225**
    15^2 25^2 35^2 45^2 55^2 65^2
    +10   +10   +10   +10   +10

22. (B)

23. (C)

24. (B)

DHARAM   VEER
6   4
↓6^2 ↓4^2
36   16 $= 3616 \xrightarrow{reverse} 1636$

OH   MY   GOD
2   2   3
↓2^2 ↓2^2 ↓3^2
4   4   9 $= 449 \xrightarrow{reverse} 944$

TUM   BIN
3   3
↓3^2 ↓3^2
9   9 $= 99 \xrightarrow{reverse} 99$

ROCK   ON
4   2
↓4^2 ↓2^2
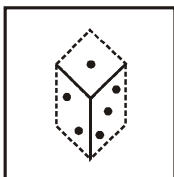16   4 $= 164 \xrightarrow{reverse} 416$

25. (C)

26. (B) Sunway Taihulight has been named as the world's fastest supercomputer title, as per recently released semiannual Top 500 list of supercomputers. It is developed by the China's National Research Centre of Parallel Computer Engineering and Technology (NRCPC). Taihulight can perform 93 quadrillions calculations per second (petaflop/s). It is intended for use in research and engineering including climate, weather, life sciences, advanced manufacturing and data analytics. The TOP 500 list is considered as one of the most authoritative rankings of the world's supercomputers. It is compiled on the basis of the machines' performance on the Linpack benchmark by experts from U.S. and Germany.

27. (C) Main purpose of these Committees is to provide a forum for informal discussions between the Government and Members of Parliament on policies and programmes of the Government and the manner of their implementation.

28. (B) Frequency Modulation: It is a process in which the frequency of the carrier is varied in accordance with the instantaneous value of modulating voltage. In telecommunications and signal processing, frequency modulation (FM) conveys information over a carrier wave by varying its instantaneous frequency. FM is most commonly used for radio and television broadcasting.

29. (D) The 2016 Great Indian Film and Literature Festival (GIFLIF) will be held at DLF Cyber Hub in Gurugram, Haryana from December 2 to showcase the vernacular spirit of Indian film and literature. The three day festival will include panel discussions on an array of themes ranging from filmmaking, digital media, advertising, publishing, literature, script writing and film screenings, besides a play and a music concert.

30. (D) The Convention on the Rights of the Child (adopted on Nov. 20, 1989) is the first legally binding international instrument to incorporate the full range of human rights i.e. civil, cultural, economic, political and social rights.

32. (C) The book "A Season of Ghosts" has been authored by Ruskin Bond. It is an entertaining book, which includes interesting short stories about the mists and mellow magic of Bond's beloved mountains.

33. (A) Haryana sprinter Dharambir Singh is in news because he has been slapped an eight year ban by the National Anti-Doping Agency (NADA) because of his second dope-related offence. Earlier, he was barred from representing India in the 2016 Rio Olympics at the last minute for failing a dope test.

34. (A) The second national highway of Indian NH-6 is the major project of National Highway network of India. NH-6 run through the west to east corner of India via 6 states as well as many cities and towns. Length of Kolkata-Hajira NH - 1949 km.

36. (A) Temperature coniferous forests covers the highest percentage of forest area in the world.

37. (C) Recently, the Ministry of AYUSH has decided to set up a central regulatory structure for AYUSH drugs as a part of Central Drugs Standard Control Organization (CDSCO) to enforce the provisions for Ayurvedic, Siddha, Unani and Homoeopathic drugs in coordination with the State regulatory authorities. The CDSCO is the national regulatory body for Indian pharmaceuticals and medical devices and is headquarters is located at New Delhi.

38. (A) The 2016 World Travel Market (WTM), the leading global event for the travel industry, has started in London, United Kingdom (UK). The 3-day business-to-business exhibition for the worldwide travel and tourism industry will be attended by almost 50,000 senior travel industry professionals, government ministers and international press. Ministry of Tourism, Government of India (GoI) has participated as Official Premier Partner at WTM London 2016.

39. (A) An optical fiber is a thin, flexible, transparent fiber that acts as a wave guide or "light pipe" to transmit light between the two ends of the fiber. An optical fiber transmits light along its axis, by the process of total internal reflection. When light traveling in a dense medium hits a boundary at an angle larger than the "critical angle" for the boundary, the light will be completely reflected. This effect is used in optical fibers to confine light in the core.

40. (D) Article 67(b) in the Constitution of India states that a Vice President may be removed from his office by a resolution of the council

of States passed by a majority of all the members of the council and the House of the People, but no resolution for the purpose of this clause shall be moved unless atleast fourteen days notice has been given of the intention to move the resolution.

41. (A) Blue green algae is used as a biofertilizer in rice crop. Blue green algae has the nitrogen fixing ability which enhances the production of rice.

42. (D) Haemophilia is a sex-linked recessive disorder. Clotting of blood is abnormally delayed in such a way that even a simple or small cut will result non stop bleeding in affected individual.

43. (B) The Battle of Haldighati was fought between the Mughal Empire and the forces of Mewar on June 21, 1576 at Haldighati in Rajasthan, India. It was a decisive victory for the Mughal Emperor Jalal ud-Din Muhammad Akbar's general Raja Man Singh against the Maharana Pratap Singh of Mewar. Akbar was 14 years old when he was crowned at Kalanaur in 1556.

44. (C) On 12 March, 1930, Gandhi started his civil disobedience movement by starting Dandi March from Sabarmati Ashram in Gujarat and reached Dandi on 6 April 1930 and broke the salt law.

46. (C) Creating firework colours is a complex endeavour, requiring considerable art and application of physical science. Strontium and barium both are alkaline earth metal and are extremely reactive. They both impart characteristic colour to flame. Strontium salts impart a red color to fireworks. Strontium compounds are also important for stabilizing fireworks mixtures. Barium is used to create green colors in fireworks, and it can also help stabilize other volatile elements.

47. (B) The Union Government has hiked Rs. 100 per quintal in wheat Minimum Support Price (MSP) to Rs. 1,625 per quintal for the 2016-17 and pulses by up to Rs. 550 per quintal to boost the output of these rabi (winter- sown) crops and check prices. Apart from this, MSP on Gram has been hiked to Rs. 4,000 per quintal including bonus, from 3,500 rupees per quintal, while MSP of Masur has been raised to Rs. 3,950 per quintal from Rs. 3,400. The support price on Mustard and safflower has been hiked to Rs. 3,700 per quintal each. On Barley the support price has been increased to Rs. 1,325 from Rs. 1,225 per quintal. To

incentivize cultivation of pulses and oilseeds, CCEA also announced a bonus on these crops over and above MSP. The MSP is the rate at which government buys the grain from farmers.

48. (D) RDX, initialism for Research Department Explosive, is an explosive nitroamine widely used in military and industrial applications. It is also known less commonly as cyclonite. Its chemical name is cyclotrimethylene trinitramine.

51. (C) 100% = 360°

$$\therefore 1\% = \frac{360°}{100}$$

$$\therefore 18\% = \frac{360° \times 18}{100} = 64.8°$$

52. (B) Difference in percent cost of 'binding and cutting charges' and 'royalty'
= (18 − 15)% = 3%
Now, ∵ 4% of total cost = ₹ 2360

$$\therefore 3\% \text{ of total cost} = ₹ \frac{2360 \times 3}{4} = ₹ 1770$$

53. (A)
A	B	C	D
48	100	80	112

∴ Required percentage = $\dfrac{(112 - 48) \times 100}{48}$

$$= \frac{64 \times 100}{48} = \frac{400}{3} = 133\frac{1}{3}\%$$

54. (C) Let the annual rate = R%
ATQ,

$$\frac{400 \times 2 \times R}{100} + \frac{550 \times 4 \times R}{100} + \frac{1200 \times 6 \times R}{100}$$

= ₹ 255
⟹ 8R + 22R + 72R = ₹ 255

$$\Rightarrow 102R = 255 \Rightarrow R = \frac{255}{102} = 2.5\%$$

55. (B) Let the no. of pencils bought by person = 15 (as L.C.M. of 3 & 5 is 15)
C.P. of 3 pencils = ₹ 5

C.P. of 15 pencils = $\dfrac{5}{3}$ × 15 = ₹ 25

S.P. of 5 pencils = ₹ 3

S.P. of 15 pencils = $\dfrac{3}{5}$ × 15 = ₹ 9

∴ Loss = ₹ (25 − 9) = ₹ 16

Loss percent = $\dfrac{16}{25}$ × 100 = 64%

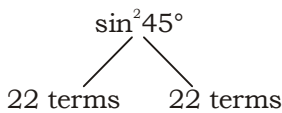56. (B) $3 \sec A - 2 \cos B = \sqrt{3}$

$\Rightarrow 3 \sec A - 2 \cos 30° = \sqrt{3}$

$\Rightarrow 3 \sec A - 2 \cdot \dfrac{\sqrt{3}}{2} = \sqrt{3}$

$\Rightarrow 3 \sec A = 2\sqrt{3}$

$\Rightarrow \sec A = \dfrac{2}{\sqrt{3}} = \sec 30°$

$\Rightarrow A = 30°$

$\therefore \cos(A - B) \sin(A + B)$
$= \cos(30° - 30°) \sin(30° + 30°) = \cos 0° \times \sin$

$60° = 1 \times \dfrac{\sqrt{3}}{2} = \dfrac{\sqrt{3}}{2}$

57. (A) CP of chair = $\dfrac{100}{75} \times 3600 = ₹ 4800$

To gain 20%, Req. SP = $\dfrac{120}{100} \times 4800 = ₹ 5760$

58. (D) $\sin^2 1° + \sin^2 3° \ldots \sin^2 85° + \ldots + \sin^2 89°$
$= \sin^2 1° + \ldots + \cos^2 1° \ (\sin^2 89° = \cos^2 1°)$
$\qquad [\because \sin(90° - \theta) = \cos\theta°]$

It is a series of AP

$89 = 1 + (n - 1) \times 2 \therefore n = 45$

$\sin^2 45°$

22 terms   22 terms

$= 22 + \sin^2 45° = 22\dfrac{1}{2}$

$\square \ 1 + \sin^2 1° + \sin^2 3° + \sin^2 5° \ldots\ldots \sin^2 85°$

$+ \sin^2 87 + \sin^2 89 = 1 + 22\dfrac{1}{2} = 23\dfrac{1}{2}$

59. (A)
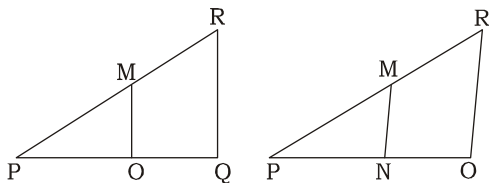
In ΔPQR,
$\because MO || QR$

$\therefore \dfrac{PM}{MR} = \dfrac{PO}{OQ} = \dfrac{4}{5} = 4 : 5 \qquad \ldots(i)$

In ΔPOR
$OR || NM$

$\therefore \dfrac{PN}{NO} = \dfrac{PM}{MR} = \dfrac{4}{5} = 4 : 5 \qquad \ldots(ii)$

Let PO = 40

$\therefore$ OQ = 50 and

$\therefore$ ON = $40 \times \dfrac{5}{9} = \dfrac{200}{9}$

ON : OQ = $\dfrac{200}{9} : 50 = 4 : 9$

60. (D)

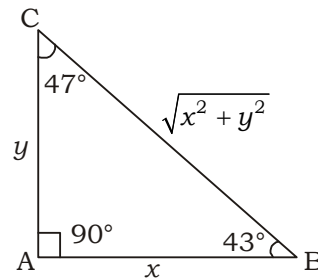| Days		Efficiency
A → 10		6
B → 12	60 →	5
C → 15		4
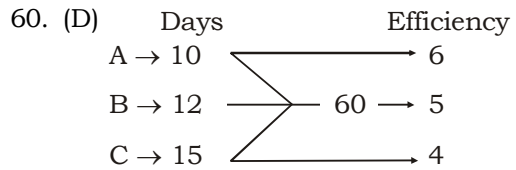
Total work = 60
A left the work before 5 days of completion
i.e. work left by A is $6 \times 5 = 30$
B left the work before 3 day of completion i.e.
work left of B is
$5 \times 3 = 15$
Now total work = 60 + 30 + 15 = 105

work done = $\dfrac{105}{6+5+4} = \dfrac{105}{15} = 7$ days

61. (B) Required no. of days = $\dfrac{39}{\dfrac{1}{2}+\dfrac{1}{3}+\dfrac{1}{4}}$

$= \dfrac{39}{\dfrac{6+4+3}{12}} = \dfrac{39 \times 12}{13} = 36$ days

62. (C) $\cos 43° = \dfrac{x}{\sqrt{x^2 + y^2}}$

$\square \ \sin 43° = \dfrac{y}{\sqrt{x^2 + y^2}}$

63. (B) $x + y = 2z$
$\Rightarrow x = 2z - y$
$\Rightarrow x - z = 2z - y - z = z - y$

$\therefore \dfrac{x}{x-z} + \dfrac{z}{y-z} + 2 = \dfrac{x}{x-z} - \dfrac{z}{z-y} + 2$

$= \dfrac{x}{x-z} - \dfrac{z}{x-z} + 2 = \dfrac{x-z}{x-z} + 2 = 1 + 2 = 3$

64. (C) Let the last number be x.
    According to the question,
    $18 \times 21 + 21 \times 28 + x = 40 \times 25$
    $\Rightarrow 378 + 588 + x = 1000$
    $\Rightarrow 966 + x = 1000$
    $\Rightarrow x = 1000 - 966 = 34$
    $\therefore$ Required Number = 34

65. (D) Let the length of each of the equal side of the ground be x metre
    Base of the playground = 24 m

    $\therefore$ Area of ground = $\dfrac{30}{50} \times 100 = 60$ m²

    But, the ground is in isosceles shape

    $\therefore$ Area of ground = $\dfrac{a}{4} \sqrt{4x^2 - a^2}$

    [where a = base, x = each of the equal sides]

    $\therefore \dfrac{24}{4} \sqrt{4x^2 - (24)^2} = 60$

    $\Rightarrow 4x - (24)^2 = (10)^2$
    $\Rightarrow 4x^2 - 576 = 100$
    $\Rightarrow 4x^2 - 676$

    $\Rightarrow x^2 = \dfrac{676}{4} = 169$

    $\Rightarrow x = 13$
    $\therefore$ Length of each of the equal side = 13 m

66. (B) Here interior angle – exterior angle = 90°

    $\dfrac{(n-2) \times 180}{n} - \dfrac{360}{n} = 90$

    $\square \dfrac{1}{n} [(n-2) \times 180 - 360] = 90$

    $\square \dfrac{1}{n} [180n - 360 - 360] = 90$

    $\square \dfrac{1}{n} [180n - 720] = 90$

    $\square 180n - 720 = 90n$
    $\square 90n = 720$

    $\square n = \dfrac{720}{90} = 8$

    $\square$ Required no. of sides = 8

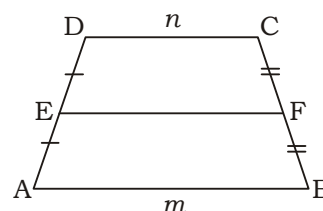67. (B) $2.5 \tan \theta = 2 \Rightarrow 5 \tan \theta = 4 \square \tan \theta = \dfrac{4}{5}$

    Now, $1 + \dfrac{5 \sin \theta - 3 \cos \theta}{5 \sin \theta + 3 \cos \theta} = 1 + \dfrac{5 \tan \theta - 3}{5 \tan \theta + 3}$

    $= 1 + \dfrac{5 \times \dfrac{4}{5} - 3}{5 \times \dfrac{4}{5} + 3} = 1 + \dfrac{1}{7} = \dfrac{8}{7}$

68. (C) $\angle COB = 360° - (140° + 90°) = 130°$

    $\Rightarrow x = \angle CAB = \dfrac{1}{2} \angle COB = \dfrac{1}{2} \times 130° = 65°$

69. (D) Let ABCD is trapezium and E, F are the mid points, then

    $EF = \dfrac{1}{2}(AB + DC)$

    $\Rightarrow EF = \dfrac{1}{2}(m + n) = \dfrac{m+n}{2}$

    $\because \{AB = m, DC = n\}$

70. (B) P can copy $\dfrac{100}{25} = 4$ pages in 1 hr.

    (P + Q) can copy $\dfrac{185}{37} = 5$ pages in 1 hr.

    $\therefore$ Q can copy (5 – 4) = 1 pages in 1 hr.

    $\therefore$ Q can copy 25 pages in $\dfrac{25}{1} = 25$ hrs.

71. (D) Number of males = 80% of 1000 = 800
    Number of females = (1000 – 800) = 200
    Number of literates = 50% of 1000 = 500
    Number of literate males = 40% of 800 = 320
    Number of literate females = (500 – 320) = 180

    $\therefore$ Required percentage = $\left(\dfrac{180}{200} \times 100\right)\%$

    = 90%

72. (A) In ΔABC and ΔADE,
    $\angle BAC = \angle DAE$
    $= 180° - (75° + 65°) = 40°$
    $\angle AED = 75° = \angle ABC$
    $\therefore \Delta AED \sim \Delta ABC$

    $\therefore \dfrac{DE}{BC} = \dfrac{AE}{AB} = \dfrac{AD}{AC} \Rightarrow \dfrac{3}{4} = \dfrac{18}{AB}$

    $\Rightarrow AB = 24$ cm

73. (B) $\left(x^2 + \dfrac{1}{x^2}\right)^2 = x^4 + \dfrac{1}{x^4} + 2x^2 \cdot \dfrac{1}{x^2}$

    = 322 + 2 = 324

    $\therefore x^2 + \dfrac{1}{x^2} = 18$

again $\left(x - \dfrac{1}{x}\right)^2 = x^2 + \dfrac{1}{x^2} - 2x \cdot \dfrac{1}{x}$

$= 18 - 2 = 16$

$\therefore x - \dfrac{1}{x} = 4$

$\Rightarrow \left(x - \dfrac{1}{x}\right)^3 = 4^3$

$\Rightarrow x^3 - \dfrac{1}{x^3} - 3x \cdot \dfrac{1}{x}\left(x - \dfrac{1}{x}\right) = 64$

$\Rightarrow x^3 - \dfrac{1}{x^3} - 3 \times 4 = 64$

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

74. (B) Ratio of speeds = 2 : 5
Ratio of time taken = 5 : 2
Let the time taken by A and B be 5x minutes and 2x minutes respectively.

Then, 5x – 2x = 20

$\Rightarrow 3x = 20 \quad \Box \quad x = \dfrac{20}{3}$

$\therefore$ Time taken by A = 5x minutes

$= \left(5 \times \dfrac{20}{3}\right)$ minutes $= \dfrac{100}{3} \times 60 = 2000$ sec

75. (C) Milk in first vessel $= \dfrac{3}{7}$

Water in first vessel $= \dfrac{4}{7}$

Milk in second vessel $= \dfrac{4}{9}$

Water in second vessel $= \dfrac{5}{9}$

ATQ, Water : Milk =

$\dfrac{3}{7} \times 1 + \dfrac{4}{9} \times 2 \quad : \quad \dfrac{4}{7} \times 1 + \dfrac{5}{9} \times 2$

$\Rightarrow 83 : 106$

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Adherent	someone who supports a particular party, person, or set of ideas	अनुयायी, समर्थक
Altruist	a person unselfishly concerned for or devoted to the welfare of others	परोपकारी
Amnesty	an official pardon for people who have been convicted of political offences	राज-क्षमा
Articulate	express (an idea or feeling) fluently and coherently	साफ-साफ बोलना
Called for	to publicly ask for something to happen	मांग करना
Cast away	set aside	त्याग देना
Come by	to manage to get something	मिल जाना, प्राप्त करना
Diminish	make or become less	घटाना, कम करना
Entomologist	a scientist who studies insects	कीटविज्ञानी
Exemplary	representing the best of its kind	अनुकरणीय
Goodwill	friendly, helpful, or cooperative feelings or attitude	सद्भाव
Grandiose	impressive or magnificent in appearance or style	वैभवशाली
Herculean	requiring great strength or effort	अत्यंत कठिन कार्य
Ingenuous	innocent and unsuspecting	सच्चा निष्कपट
Ornithologist	a person who studies birds	पक्षीविज्ञानी
Reflex	an action that is performed as a response to a stimulus and without conscious thought	अनैच्छिक क्रिया
Scenery	the natural picturesque features of a landscape	किसी स्थान का खूबसूरत प्राकृतिक दृश्य
Symbiosis	interaction between two different organisms living in close physical association	सहसंबंध

SSC MOCK TEST - 75 (ANSWER KEY)

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

76. (C) Remove 'on'. Also there must be a space between every and day.
77. (*) Change 'in' into 'is'. Also add 'the' before newly.
78. (C) 'Scenery' is an uncountable noun. It has no plural form.
79. (B) 'Come by' means 'to get possession of'.
90. (C) 'Cut out for' means 'to be prepared or be fit for or suited for'.

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

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