SSC MOCK TEST – 227 (SOLUTION)

1. (D) As, B A B Y

C E K O

   Similarly, B A B A

C E K Q

2. (B) $6 \times 4 = 24 \Rightarrow 2 \times 4 = 8$
   $2 \times 8 = 16 \Rightarrow 1 \times 6 = $ **6**

3. (D) R.K. Mathur

4. (D) Except (D), others are in form of $(x^3 - x)$ where x = 3, 5, 7.

5. (D) In 'YELLOW', we can find two vowels i.e. 'E and O', whereas in others only one vowel is present.

6. (C) Except (C), other are continents.

7. (B) $2 \to 4 \to 1 \to 5 \to 3$

8. (C)

9. (A) $T = 3 + \left[\dfrac{2}{11}(3 \times 30 + 0)\right]$

   $= 3 + \dfrac{180}{11} = 3$ past $16\dfrac{4}{11}$ min

10. (B) $6 \times 0.5 + 1 = 4$
    $4 \times 1 + 2 = 6$
    $6 \times 2 + 3 = 15$
    $15 \times 4 + 4 = $ **64**
    $64 \times 8 + 5 = 517$
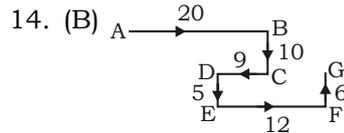 $517 \times 16 + 6 = 8278$

11. (B) 6812   6816   6960   7444   **8468**

    $+2^2 = 4$ $+12^2 = 144$ $+22^2 = 484$ $+32^2 = 1024$
    $+10$ $+10$ $+10$

12. (B) As,
    $(11^2 + 13^2 + 17^2 + 19^2) - (11 + 13 + 17 + 19)$
    $= 121 + 169 + 289 + 361 - 60 = 880$
    and $(3^2 + 5^2 + 7^2 + 11^2) - (3 + 5 + 7 + 11)$
    $= 9 + 25 + 49 + 121 = 204 - 26 = 178$
    Similarly,
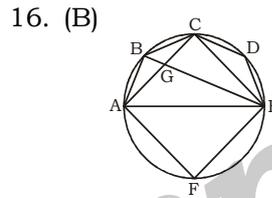 $(5^2 + 11^2 + 23^2 + 17^2) - (5 + 11 + 23 + 17)$
    $= 25 + 121 + 529 + 289 - 56$
    $= 908$

13. (C) **W** E **B** S I **T** E W **E** B **S I** T E

14. (B)

    Now, dog is facing **North**.

15. (C) Only son of Amar's Mother's father → Amar maternal Uncle
    So, Girl's maternal uncle is the Amar's maternal uncle. Thus, the Girl's mother is Amar's **Aunt**.

16. (B)

    Simple triangles are ABG, BCG, CGE, CDE, AGE and AEF i.e. 6 in number.
    Triangles composed of two components each are ABE, ABC, BCE and ACE i.e. 4 in number.
   So, there are 6 + 4 = 10 triangles in the figure.

17. (A) Ayush's present age = 10 years.
    His mother's present age = (10 + 20) = 30 years
    Ayush's father's present age = (30 + 5) = 35 years
    Ayush's father's age at the time of Ayush's birth = (35 – 10) = 25 years.
    Therefore Ayush's father's age at the time of marriage = (25 – 2) = **23 years**

18. (B) Both the given conclusions clearly bring out the central theme of the proverb given in the statement. So, both I and II follow.

19. (D) The two half-shaded faces lie opposite to each other and one of the three blank faces appears opposite to the face bearing a dot. Clearly, each one of the four cubes shown in figures (A), (B), (C) and (D) can be formed by folding the sheet shown in figure.

20. (C)

21. (A)

22. (C)
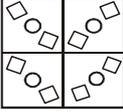
23. (B)

24. (D) POSI   TION   PER   SON
         KUQR   LMGR   TGR   LMQ
         +2 +2 +2 +2   +2 +2 +2 +2   +2 +2 +2   +2 +2 +2

25. (C)

26. (A) Gibraltar – Atlantic ocean and Mediter – anean Sea.

    Karimata – South China Sea and Java Sea

    Makassar – Borneo Island and Sulawesi.

27. (C) The Battle of Tukaroi, also known as the Battle of Bajhaura or the Battle of Mughulmari, was fought on 3rd March 1575 near the village of Tukaroi now in Balasore District of Odisha . This battle was between The Mughal Empire and the Sultanate of Bangal and Bihar.

28. (D) Sahara Desert touches the boundary of 11 countries – Alzira, Chad, Libya, Mali, Mauritania, Niger, Sudan, Egypt, West Sahara, Tunisia and Morocco.

31. (D) Some of its stars are – Betelgeuse, Rigel, Bellatrix, Alnitak, Alnilam and Saiph etc.

32. (C) Bombay Times was founded in 1838 in Mumbai.

33. (C) Xerophyte – Tropical deserted area-vegetation

    Hydrophyte – Water flushed area vegetation

    Cryophyte – Tundra and cold area vegetation

34. (A) Frequency is the number of occurrences of a repeating event per unit of time.

    Amplitude of a periodic variable is a measure of its change over a single period.

    Quality is the number of harmonics of a fundamental frequency of an instrument.

35. (A) The Indradhanush for PSBc mission aimed of revamping the function of the Public sector Banks in order to enable them to compete with the private sector Banks. It Seeks to revive economic growth by means of reduction of political interference in the functioning of PSBc and improving credit.

37. (A) In 1931 Indian Central Banking Enquiry Committee revives the issue of the establishment of the Reserve Bank of India as the Central Bank of India.

38. (D) Gandikota is a small village in the Kadapa district of Andhra Pradesh that is known for its spectacular gorge formed by river Pennar that cuts through the Erramala hills.

39. (B) Indian councils Act 1909 (Morley-Minto reforms) that brought about a limited increase in the involvement of Indians in the governance of British India. Communal Award was made on 16 August 1932, granting separate electorates in India for the Forward caste, SC, Muslims, Buddhists, Sikhs, Indian Christians, Anglo–Indians and Europeans.

42. (A) Kibithu is a town in Arunachal Pradesh in Anjaw district. Wokha and Mokokchung are in the state of Nagaland.

43. (C) Oxygen - 46.6% , Silicon - 27.7% , Aluminum - 8.1% and Iron - 5%

45. (D) Andhra Pradesh, Bihar Karnataka, Maharashtra, Telangana and Uttar Pradesh have Bicameral legislatures. In these states the upper house is called state legislative.

47. (D) Pneumonia is an infection in lungs.

49. (B) Small Intestine – Duodenum, Jejunum and Ileum

    Large Intestine – Ascending colon, Transverse colon, Descending colon, Sigmoid colon and Rectum

    Pharynx – Nasopharynx, Oropharynx and Laryngopharynx.

51. (D)
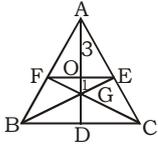
AD, is the median of ΔABC

AG : GD = 2 : 1 ...(i)

OD, is the median of ΔDEF

GD : GO = 2 : 1 ...(ii)

From (i) & (ii)

AG : GD : GD

4 : 2 : 1

Now, AO : OG = (AG – OG) : OG

= (4 – 1) : 1

= 3 : 1

52. (B) ATQ.,

A : B : C

I^{st} year investment (5 : 7 : 8)

+60% | –50%

2nd year investment (8 : 7 : 4)

3rd year investment (8 : 7 : 4)
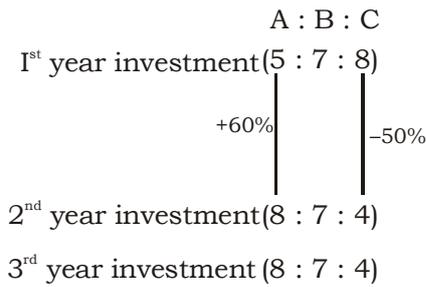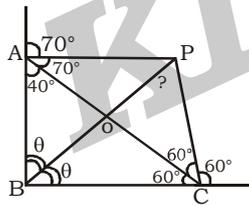
End of 3 years 21 : 21 : 16

Hence, A, B and C distributed profit in the ratio 21 : 21 : 16

53. (A)

Point P is external by bisector of A and C.

In ΔABC

40° + 3θ + 60° = 180°

$\Rightarrow$ 2θ = 80°

$\Rightarrow$ θ = 40°

In ΔBPC

θ + 120° + ∠BPC = 180°

$\Rightarrow$ 40 + 120° + ∠BPC = 180°

∠BPC = 20°

54. (D)

24 (Total work)

A → 6 | 4

B → 8 | 3

With help of C they can do work in 3 days

$= \dfrac{24}{A+B+C} = \dfrac{24}{4+3+x} = 3$

$\therefore x = 1$ (efficiency of C)

$\because$ 24 units = 32,000

$\therefore$ 1 unit $= \dfrac{32,000}{24}$

$\therefore$ 3 units $= \dfrac{32,000}{24} \times 3 = ₹\ 4000$

55. (B) ATQ.,

$\dfrac{6x}{2x^2 + 5x - 2} = 1$

$\Rightarrow$ $6x = 2x^2 + 5x - 2$

$\Rightarrow$ $2x^2 - x - 2 = 0$

Dividing by x on both sides

$2\left(x - \dfrac{1}{x}\right) = 1$

$\Rightarrow$ $x - \dfrac{1}{x} = 1$

Now, $x + \dfrac{1}{x} = \sqrt{\left(x - \dfrac{1}{x}\right)^2 + 4}$

$= \sqrt{\dfrac{1}{4} + 4}$

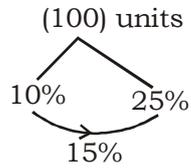$= \dfrac{\sqrt{17}}{2}$

$\left(x + \dfrac{1}{x}\right)^3 = x^3 + \dfrac{1}{x^3} + 3\left(x + \dfrac{1}{x}\right)$

$\Rightarrow \left(\dfrac{\sqrt{17}}{2}\right)^3 = x^3 + \dfrac{1}{x^3} + 3 \times \dfrac{\sqrt{17}}{2}$

$\Rightarrow \dfrac{17\sqrt{17}}{8} - \dfrac{3}{2}\sqrt{17} = x^3 + \dfrac{1}{x^3}$

$\Rightarrow x^3 + \dfrac{1}{x^3} = \dfrac{17\sqrt{17} - 12\sqrt{17}}{8} = \dfrac{5\sqrt{17}}{8}$

56. **(C)** ATQ.,

Let the CP is 100 units

(100) units

10% 25%

15%

$15\% \longrightarrow ₹45$

$100\% \longrightarrow ₹300$

Hence, CP is ₹300

Now, from question

$$\frac{300 + 52 + x}{3} = ₹172$$

$x = ₹164$

Hence, $x = ₹164$

57. **(A)** ATQ.,

Speed of cycle = 6 km/hr

Speed of current = 6 km/hr

Speed of boat = 8 km/hr

A ├────────┤ B (Temple)

(Starting point)

Average speed for P = $\dfrac{2 \times 6 \times 6}{12}$

= 6 kms/hr

Let, Q sails on a boat,

Down-ward speed = 14 km/hr

Upward speed = 2 km/hr

Average speed of Q = $\dfrac{2 \times 14 \times 6}{14 + 2} = \dfrac{2 \times 14 \times 2}{16}$

= 3.5 km/hr

Average speed friend P is greater than the average speed of friend Q.

Hence, P returns first at place A.

58. **(D)** ATQ.,

$20\% = \dfrac{1}{5}$

Principal	Installment
5×36	6×36
25×6	36×6
25×6	36×6
$\dfrac{125}{455}$	216

$455 \text{ units} \longrightarrow ₹1820$

$216 \text{ units} \longrightarrow ₹864$

Hence, each installment ₹864

59. **(A)** ATQ.,

Let principal are 100 units

$$\frac{12 \times 2.5 \times 100}{100} = 30 \text{ — SI}$$

$$\frac{10 \times 3.5 \times 100}{100} = 35 \text{ — SI}$$

5 units — ₹40

100 units — ₹800

Hence, sum of ₹800

60. **(D)** ATQ.,

A + B + C = 252		…(i)
A + B + C + D = 320		…(ii)
E = D + 3		…(iii)
B + C + D + E = 316		(iv)

From equation (i) and (ii)

D = 68

E = 71

Putting the value of D and E in equation (iv)

B + C = 177

From equation (i)

A = 75

61. **(A)** ATQ.,

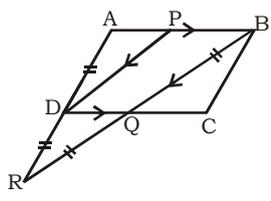$$\frac{(S_1 - 4.5) \times 5}{18} = \frac{S_1}{8.4} \qquad ….(i)$$

$$\frac{(S_1 - 5.4) \times 5}{18} = \frac{S_1}{8.5} \qquad ….(ii)$$

Dividing equation (i) by equation (ii),

$$\frac{S_1 - 4.5}{S_1 - 5.4} = \frac{85}{84}$$

$S_1 = 81$ km/hr

62. **(C)** ATQ.,

P is the midpoint of AB & PD∥BR

∴ D is the midpoint of AR so DQ∥AB

∴ In ΔARB, Q is also midpoint of BR

So, BR = 2BQ

63. (D) ATQ.,

$$x\sin\theta = \frac{5\sqrt{3}}{2} \quad ...(1)$$

$$x\cos\theta = \frac{5}{2} \quad ...(2)$$

Squaring both sides (1) and (2), and adding

$$x^2 = \frac{25 \times 3}{4} + \frac{25}{4}$$

$$x = \pm 5$$

Hence, $x = 5$

64. (B) ATQ.,

$$\theta + \phi = \frac{2}{3}\pi$$

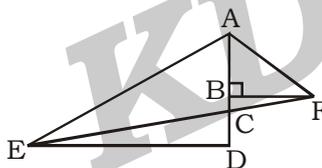$$\cos\theta = \frac{\sqrt{3}}{2} \Rightarrow \theta = \frac{\pi}{6}$$

$$\phi = \frac{5\pi}{6}$$

$$\sin\phi = \sin\left(\frac{5\pi}{6}\right)$$

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

Hence, $\sin\phi = \frac{1}{2}$

65. (D)

Given CD = BF = 10 units

∠CED = ∠BAF = 30°

In ΔCDE,

$$\tan 30° = \frac{CD}{ED} \Rightarrow \frac{1}{\sqrt{3}} = \frac{CD}{ED}$$

$$\Rightarrow ED = \sqrt{3}\, CD = 10\sqrt{3}$$

In ΔABF

$$\tan 30° = \frac{BF}{AB} \Rightarrow \frac{1}{\sqrt{3}} = \frac{BF}{AB}$$

$$\Rightarrow AB = \sqrt{3}\, BF = 10\sqrt{3}$$

Also, ∠BFC = ∠CED = 30°

So, In ΔBFC

$$\tan 30° = \frac{BC}{BF} \Rightarrow \frac{1}{\sqrt{3}} = \frac{BC}{BF} \Rightarrow BC = \frac{10}{\sqrt{3}}$$

$$AD = AB + BC + CD = 10\sqrt{3} + \frac{10}{\sqrt{3}} + 10$$

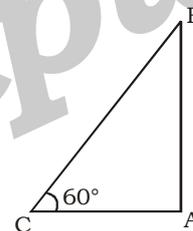$$= 10\left(\sqrt{3} + \frac{1}{\sqrt{3}} + 1\right) = 10\left(\frac{3 + 1 + \sqrt{3}}{\sqrt{3}}\right)$$

$$= \left(\frac{4 + \sqrt{3}}{\sqrt{3}}\right)10$$

∴ Area of ΔAFD $= \frac{1}{2} \times AD \times ED$

$$= \frac{1}{2} \times 10\left(\frac{4 + \sqrt{3}}{\sqrt{3}}\right) \times 10\sqrt{3}$$

$$= 50(4 + \sqrt{3}) \text{ units}^2$$

66. (C) Let AB be the wall and BC be the ladder.

Then, ∠ACB = 60° and AC = 17.63 m

$$\Rightarrow \frac{AC}{BC} = \cos 60° = \frac{1}{2}$$

BC = 2 × AC

= (2 × 17.63) m

= 35.26 m

67. (D) Let ABC be a isoceles triangle such that AB = AC

Let BC = X cm

Perimeter of ABC = 544 cm

⇒ AB + BC + CA = 544

⇒ 2AB + X = 544

Given AB $= \frac{5}{6}(AC) = \frac{5X}{6}$

Hence $544 = X + 2\left(\frac{5X}{6}\right)$

$= X + \dfrac{5X}{3} = \dfrac{8X}{3}$

$\Rightarrow 8X = 544 \times 3$

$\Rightarrow X = 204$ cm

$\Rightarrow AB = 5 \times \dfrac{204}{6} = 170$cm

Area of the given Triangle ABC $= \dfrac{1}{2}(BC \times AD)$

AD is height of ABC, AD bisects BC,
By Pythagoras theorem

$AD^2 = AB^2 - BD^2 = AB^2 - \dfrac{1}{4}(BC^2)$

$AD^2 = 170^2 - \dfrac{1}{4}(204^2) = 28900 - \dfrac{1}{4}(41616)$

$= 28900 - 10404 = 18496$

$\Rightarrow AD = 136$ cm

$\therefore$ Area $= \dfrac{1}{2}(204 \times 136) = 13872$ cm^2

68. (B) $(a \times 50) = (0.75 \times 80) \Rightarrow a = \left(\dfrac{6}{5}\right) = 1.2$

69. (A) $(a^2 + 2a)^2 + 12(a^2 + 2a) - 45$

    Let $(a^2 + 2a) = x$
    $= x^2 + 12x - 45$
    $= x^2 + 15x - 3x - 45$
    $= x(x + 15) - 3(x + 15)$
    $= (x - 3)(x + 15)$

    Put the value of x
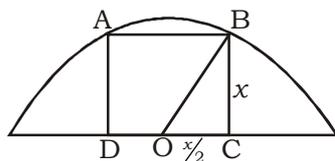 $(a^2 + 2a - 3)(a^2 + 2a + 15)$
    $= (a^2 + 3a - a - 3)(a^2 + 2a + 15)$
    $= \{a(a + 3) - 1(a + 3)\}(a^2 + 2a + 15)$
    $= (a - 1)(a + 3)(a^2 + 2a + 15)$

70. (D)

    Let the side of square ABCD is x cm.

    $OC = \dfrac{x}{2}$, BC = x

OB = Radius = 10 cm.
In $\triangle OCB$
$OB^2 = OC^2 + BC^2$

$\Rightarrow (10)^2 = \left(\dfrac{x}{2}\right)^2 + (x)^2$

$\Rightarrow 100 = \dfrac{5x^2}{4}$

$\Rightarrow x^2 = 80$

$\Rightarrow x = 4\sqrt{5}$ cm

Hence, perimeter of ABCD $= 4x$

$= 16\sqrt{5}$

71. (D) Number of cones

$= \dfrac{\text{Volume of sphere}}{\text{Volume of cone}}$

$= \dfrac{\dfrac{4}{3}\pi(10.5)^3}{\dfrac{1}{3}\pi(3.5)^2 \times 3}$

$= \dfrac{4 \times 10.5 \times 10.5 \times 10.5}{3.5 \times 3.5 \times 3} = 126$

72. (C) Let the required side of triangle be x cm.

So, $\dfrac{x^2}{7^2} = \dfrac{256}{196}$

$\Rightarrow x^2 = \dfrac{49 \times 256}{196}$

$\Rightarrow x = 8$ cm

Hence, side of required triangle = 8 cms

73. (D) $\because$ 100% = ₹ 50,000

total percent spent on food and rent
$= (45 + 14)\%$

$\therefore 59\% = \dfrac{50,000}{100} \times 59 = ₹ 29,500$

74. (A) Required ratio = 15 : 45 = 1 : 3

75. (B) Required percentage $= \dfrac{14}{9} \times 100 = 156\%$

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Acclaim	to praise or applause	प्रशंसा करना
Affix	to attach physically	चिपका होना
Civility	a polite act or expression	शिष्टाचार
Deliquescence	tending to melt or dissolve	घुलनशील
Demarcation	something that marks or constitutes a boundary	सरहदबंदी
Didactic	designed or intended to teach	शिक्षाप्रद
Disgorge	to discharge by the throat and mouth	उगलना
Ennui	a feeling of weariness and dissatisfaction	ग्लानि
Excitement	a feeling of eager enthusiasm and interest	उत्साह
Gauche	crudely made or done	भद्दे तरीके से बना
Graceful	moving in a smooth and attractive way	सुशोभित
Inclusive	broad in orientation or scope	सम्मिलित
Instructive	providing knowledge or information	शिक्षाप्रद
Maladroit	very awkward, not skillful	फूहड़
Mend	to free from faults or defects	सुधार करना
Moldy	of, resembling, or covered with mold	फफुंद लगा हुआ
Pertinacious	stubbornly tenacious	हठी
Pugnacious	having a quarrelsome or combative nature	झगड़ालू
Punctual	being on time	समयनिष्ठ
Refined	free from impurities	परिष्कृत
Regime	a form of government	शासन
Sacrament	a ceremony regarded as imparting spiritual grace	पवित्र
Sanguine	optimistic	आशावादी
Sententious	given to moralize in a pompous or affected manner	उपदेशपूर्ण (दिखावे के साथ)
Sincere	free from adulteration	निष्कपट
Sophisticated	highly complicated or developed	जटिल
Suspicion	a state of mental uneasiness and uncertainty	संदेह
Vindictive	disposed to seek revenge	प्रतिशोध

SSC MOCK TEST - 227 (ANSWER KEY)

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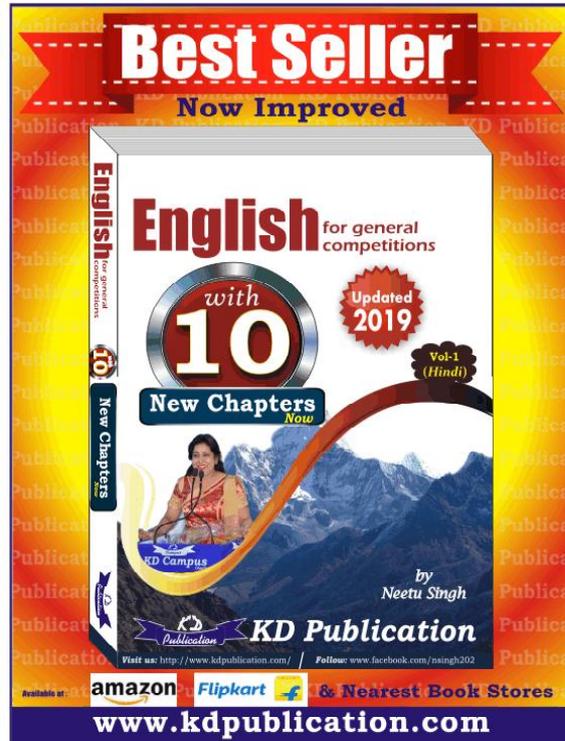
76. (C) Substitute 'lie in bed' in place of 'lay in the bed'. Modals take $V_{b.f.}$

77. (B) Correct preposition to use here is 'to'. Hence replace 'into' by 'to'.

78. (C) Goes to the nearby park in correct. Change 'in' into 'to'.

79. (A) 'Cut out for' means 'suitable for'.

86. (A) "Delay" itself is a noun as well thus no need of writing delay in Gerund form.

87. (A) Relative pronoun "which" is used to relate with non-living things, thus 'who' should be used. And as the context of the statement is in past thus 'was' should be used.

vocab Sanguine: optimistic or positive, especially in an apparently bad or difficult situation.

Sacrament: a ceremony regarded as imparting spiritual grace, in particular:

Sententious: given to moralize in a pompous or affected manner.
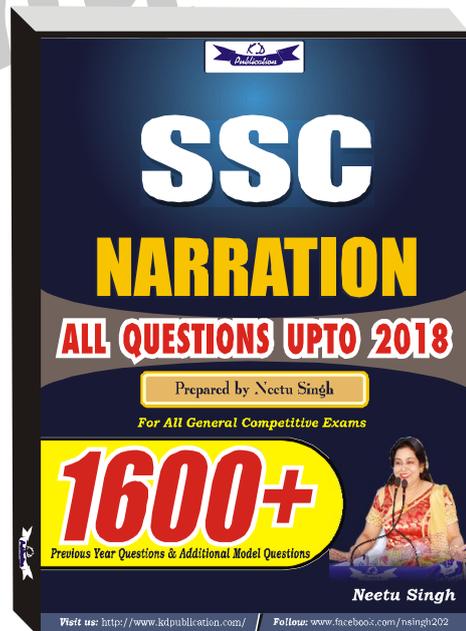
Note:- Whatsapp with Mock Test No. and Question No. at 7053606571 for any of the doubts. Join the group and you may also share your suggestions and experience of Sunday Mock Test.

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