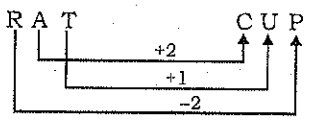
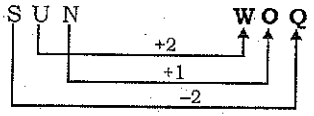
Pinnacle Learning Destination
Plot No.3 Third Floor Main Road
Raghunathpur, Sector 22 -Noida,
Uttar Pradesh
Pin-201301Ph-+91-9555662244

SSC Solution

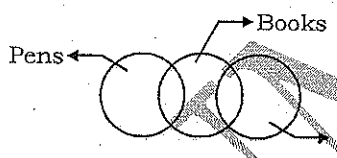
1. (B) Radio was invented by Marconi and Calculator was invented by **Pascal.**
2. (B) $4^2 \times 2 = 32$
   $5^2 \times 2 = \mathbf{50}$
3. (C) As,



Similarly,

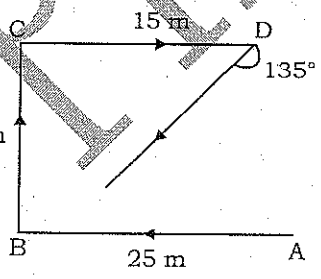


4. (C) Only **64** is the number whose square root and cube root can be found.
5. (D) D $\xrightarrow{\text{reverse}}$ W
   H $\xrightarrow{\text{reverse}}$ S
   L $\xrightarrow{\text{reverse}}$ O
   G $\xrightarrow{\text{not a reverse}}$ **U**
6. (C) Only, **Sky** is the word without vowels.
7. (B) $4 \rightarrow 3 \rightarrow 1 \rightarrow 6 \rightarrow 2 \rightarrow 5$
8. (D)



None of the four follow

9. (C) Hospital consists of Doctor and Patient, but doctor and patient are two different entity.
10. (C) Required Age = 80 + (3 × 3) = 89
11. (A) Brother of mother means maternal uncle. Hence, only nephew of Aamir's maternal uncle means Aamir himself. Therefore, Sonia is the **wife** of Aamir.
12. (C)



Hence, she is going in the South-West direction.

13. (C) In these two positions one of the common face having 1 point is in the same position. There will be 2 points opposite to the face containing 5 points.
14. (C) $(12 + 5)\ (12 - 5) = 17 \times 7 = 119$
    $(9 + 6)\ (9 - 6) = 15 \times 3 = 45$
    $(18 + 3)\ (18 - 3) = 21 \times 15 = \mathbf{315}$
15. (B) $(2 + 4)^3 = 6^3 = 216$
    $(8 + 7)^2 = 15^2 = 225$
    $(18 + 9)^1 = 27^1 = 27$
    $(7 + 5)^3 = 12^3 = \mathbf{1728}$
16. (C) HCF (12, 48, 16) = 4 ⇒ 4 × 10 = 40
    HCF (24, 27, 36) = 3 ⇒ 3 × 10 = 30
    HCF (18, 24, 30) = 6 ⇒ 6 × 10 = **60**
17. (B) The number of squares in the given figure = $(1^2 + 2^2 + 3^2 + 4^2)$ = **30**
18. (C) There will be 3 dots opposite to 5 dots.
19. (C) 2 3 6 36 **1296**
    (2×3) (2×3×6) (2×3×6×36)
20. (C) 1^2+2 3^2+3 5^2+4 7^2+5 9^2+6 11^2+7
    3 12 29 54 **87** 128
21. (C)
22. (C)
23. (C)
24. (B) F R I E N D L O V E
    6 18 9 5 14 4 12 15 22 5
    sum sum
    56% 54%

    M A R R I A G E
    13 1 18 18 9 1 7 5
    sum
    72%

    A T T I T U D E
    1 20 20 9 20 21 4 5
    sum
    100%

25. (B)
27. (A) Narinder Batra has become the first Indian to be elected the President of the International Hockey Federation (FIH). He succeeds Spaniard Leandro Negre, who has been the FIH chief since 2008. Batra, who is the president of Hockey India, has become the 12th FIH President and the first Asian to grab the post.
30. (A) Idukki is a hydro-electric project of Kerala. So, the '1' option is not correct. The Idukki Dam is a double curvature arch dam

constructed across the Periyar River in a narrow gorge between two granite hills Kuravan and Kurathi in Kerala, India. At 167.68 metres, it is one of the highest arch dams in Asia. It was constructed and is owned by the Kerala State Electricity Board. It supports a 780 MW hydroelectric power station in Moolamattom, which started generating power on 4 October 1975.

31. (B) About 50% of the world population is concentrated between latitude of 20°N and 40°N, because most populous countries like Asia, U.S.A, Europe lie within this latitude.
32. (D) Benguela is a cold current flows from south to north along the west coast of Africa. Guinea current is a warm current flowing east of Guinea along the west coast of Africa.
33. (D) According Article 355, it shall be the duty of the Union to protect every State against external aggression and internal disturbance and to ensure that the government of every State is carried on in accordance with the provisions of this Constitution.
34. (B) The 36th edition of India International Trade Fair (IITF) will be held at Pragati Maidan, New Delhi on 14th November, 2016 and will continue till November 18th, 2016. The fair will be inaugurated by the President of India Pranab Mukherjee with the theme of "Digital India". This year's partner country and states are South Korea and Madhya Pradesh and Jharkhand respectively. The focus country and state are Belarus and Haryana respectively.
35. (B) Narasimham Committee for Financial Sector Reforms (1991) has suggested reduction in SLR, CRR and priority sector financing reducing it from 40% to 10%. Most of the suggestions of the committee were not implemented.
37. (C) Mongols under Chengiz Khan (died in 1227) invaded India during the reign of Iltutmish (1211-36) but did not enter deep in India as Iltutmish refused to give shelter to the Persian king, Khwarizm Shah, whom Chengiz Khan was chasing.
38. (B) Seller's market is a market which has more buyers than sellers. High prices result from this excess of demand over supply. The opposite of the seller's market is the buyer's market, where supply greatly exceeds demand.
39. (A) Noted geophysicist Tandavarthi Nagesh has recently passed away in Hyderabad. He was the former Director-grade scientist at the National Geophysical Research Institute (NGRI). He was known for making outstanding contribution in understanding earthquakes, mass extinctions, especially dinosaurs and the movement of the Indian sub-continental plates.
40. (C) Chief Justice of India, Union Cabinet Minister, Chief Election Commissioner and Cabinet Secretary is the correct order of precedence.
41. (C) Gurumoorthy Mahalingam has become the new Whole-Time Member (WTM) of the Securities and Exchange Board of India (SEBI) for a period of 5 years or till the age of 65 years, whichever is earliest. He will get a consolidated salary of Rs. 3.75 lakh. Previously, Mahalingam was the executive director and former regional director of Reserve Bank of India (RBI).
43. (A) The preamble of the Constitution of India is a brief introductory statement that set out the guiding purpose and principles of the document. As originally enacted the preamble described the state as a 'sovereign democratic republic'. In 1976 the Forty second Amendment changed this to read 'sovereign socialist secular democratic republic'.
46. (A) The book "SRK - 25 Years of a Life" has been authored by writer and filmmaker Samar Khan. The book traces the journey of the Bollywood superstar Shah Rukh Khan through all his directors' eyes. The thought behind the book was to show why his directors thought of such iconic characters for Shah Rukh.
49. (B) Both the statements are true but do not explain each other.
50. (C) Aryan is in fact a linguistic term indicating a speech group of Indo-European origin, and is not an ethnic term.
51. (B) Let the numbers are 50 and 60 respectively.

A	:	B
50		60
↓ +20%		↓ -20%
60	:	48

∴ Required ratio = 60 : 48 = 5 : 4

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52. (B) Let SP = 100

Loss 80, Profit 115, +35

$\because$ 35 $\longrightarrow$ 105

$\therefore$ 1 $\longrightarrow$ 3

$\therefore$ 100 $\longrightarrow$ 300

53. (C) Listed price = ₹ 1400

After 1st discount

$= \frac{90}{100} \times 1400$

= ₹ 1260

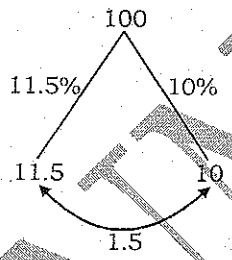
SP = ₹ 1200

Additional discount %

$= \frac{1260-1200}{1260} \times 100$

$= \frac{100}{21}\% = 4\frac{16}{21}\%$

54. (D) Let the sum = 100 units



According to question,

$\because$ 1.5 units = 75

$\therefore$ 1 unit $= \frac{75}{1.5}$

$\therefore$ 100 units $= \frac{75}{1.5} \times 100 =$ ₹ 5000

55. (B) According to the question,

Principal = ₹ S

Rate = 2r% p.a

Time = 3 years

$\therefore A = P\left(1+\frac{R}{100}\right)^T$

$A = S\left(1+\frac{2r}{100}\right)^3$

$A = S\left(1+\frac{r}{50}\right)^3$

56. (A) A + B + C = 196

A	:	B	:	C
2	:	3		3
5		5	:	8
10	:	15	:	24

$10x + 15x + 24x = 49x$

$49x = 196$

$x = 4$

$\therefore$ second number (B)

= 4 × 15

= 60

57. (A) Let their monthly income be ₹ $8x$ and ₹ $5x$

According to the question

$\frac{8x-12000}{5x-10000} = \frac{5}{3}$

$\Rightarrow 24x - 36000 = 25x - 50000$

$x = 14000$

Difference in monthly income

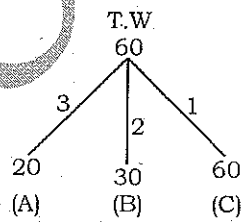
$8x - 5x = 3x$

$x = 14000$

$\therefore 3x = 14000 \times 3$

= ₹ 42,000

58. (C)



in 3 days cycle total work done is

= 3 + 3 + 6 = 12 units

work will be completed in $= \frac{60}{12}$ = 5 cycles

1 cycle → 3 days

5 cycle → 3 × 5 = 15 days

59. (D) 1 sec → 1 drop

No. of second in 300 days

(24 hrs × 60 min × 60 sec) × 300 days

No. of litres wasted

$\frac{300 \times 24 \times 60 \times 60}{6 \times 1000}$ litres

= 4320 litres

60. (B) Speed = 78 km/hr

$= \frac{78}{60} \times 1000$ m/min

= 1300 m/min

Distance travelled in 1 min

= 1300 m

= 1300 = l + 800

l = 500 m

length of tunnel is 500 m

61. (C) Speed of boat in still water, $x = 5$ km/hr
Speed of stream, $y = 3$ km/hr
According to question,

$$\frac{\text{Distance}}{8} + \frac{\text{Distance}}{2} = 3 \text{ hrs}$$

$$\frac{D}{8} + \frac{D}{2} = 3$$

$$\Rightarrow \frac{5D}{8} = 3$$

$$5D = 24$$

$$D = \frac{24}{5} = 4.8 \text{ km}$$

62. (B) $\frac{1}{5} + 999\frac{494}{495} \times 99$

$$= \frac{1}{5} + \left[999 + \frac{494}{495}\right] \times 99$$

$$= \frac{1}{5} + \left(1000 - \frac{1}{495}\right) \times 99$$

$$= \frac{1}{5} + 99000 - \frac{1}{5}$$

$$= 99000$$

63. (D) According to the question,

$$\frac{8}{9} \times \frac{3}{\frac{5}{6} \div \frac{2}{3} \text{ of } 1\frac{1}{4}}$$

$$= \frac{8}{9} \times \frac{3}{\frac{5}{6} \div \left(\frac{2}{3} \times \frac{5}{4}\right)}$$

$$= \frac{8}{9} \times \frac{3}{\frac{5}{6} \div \frac{5}{6}}$$

$$= \frac{8}{9} \times \frac{3}{1} = \frac{8}{3}$$

64. (A) $9 \sec^2\theta + 4 \operatorname{cosec}^2\theta$

$$\left(\left(\sqrt{9}\right) + \left(\sqrt{4}\right)\right)^2 \qquad \left(\because a \sec^2\theta + b \operatorname{cosec}^2\theta \text{ min} = (\sqrt{a} + \sqrt{b})^2\right)$$

$$= 9 + 4 + 2\sqrt{9 \times 4}$$
$$= 13 + 12$$
$$= 25$$

65. (A) $5 \sin^2\theta + 2 \cos^2\theta + \frac{3}{1 + \tan^2\theta}$

$$\Rightarrow 5 \sin^2\theta + 2 \cos^2\theta + \frac{3}{\sec^2\theta}$$

$$= 5 \sin^2\theta + 2 \cos^2\theta + 3 \cos^2\theta$$
$$= 5 \sin^2\theta + 5 \cos^2\theta$$
$$= 5(\sin^2\theta + \cos^2\theta)$$
$$= 5 \qquad (\because \sin^2\theta + \cos^2\theta = 1)$$

66. (A) Given
$a - b = 6$
$b - c = -2$
$c - a = -4$
We know that

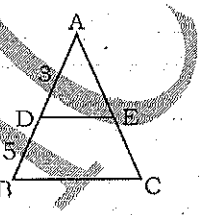
$$a^3 + b^3 + c^3 - 3abc = \frac{1}{2}(a + b + c)\{(a - b)^2 + (b - c)^2 + (c - a)^2\}$$

$$\frac{a^3 + b^3 + c^3 - 3abc}{a + b + c} = \frac{1}{2}((a - b)^2 + (b - c)^2 + (c - a)^2)$$

$$= \frac{1}{2}(6^2 + (-2)^2 + (-4)^2)$$

$$= \frac{1}{2}(36 + 4 + 16) = 28$$

67. (A)



Area of trapezium
= Area of ΔABC – Area of ΔADE
= 64 – 9
= 55
So ratio = 64 : 55

68. (A) $x - \frac{1}{x} = \sqrt{12}$

so $x + \frac{1}{x} = \sqrt{12 + 4} = 4$

$$\frac{x^5 + \frac{1}{x}}{x^4 + 1} = \frac{x^2\left(x^3 + \frac{1}{x^3}\right)}{x^2\left(x^2 + \frac{1}{x^2}\right)}$$

$$= \frac{x^3 + \frac{1}{x^3}}{x^2 + \frac{1}{x^2}} = \frac{64 - 12}{14} = \frac{52}{14} = \frac{26}{7}$$

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69. (D) Number of cones

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

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

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

70. (C) $a = 3 + 2\sqrt{3}$

$ab = 1$

$$\therefore b = \frac{1}{3+2\sqrt{2}} = 3 - 2\sqrt{2} = \frac{1}{a}$$

$$a + b = a + \frac{1}{a} = 6$$

$$\therefore a^2 + \frac{1}{a^2} = 6^2 - 2 = 34$$

$$\therefore \frac{a^2 + 3ab + b^2}{a^2 - 3ab + b^2} = \frac{a^2 + b^2 + 3ab}{a^2 + b^2 - 3ab}$$

$$= \frac{a^2 + \frac{1}{a^2} + 3}{a^2 + \frac{1}{a^2} - 3} = \frac{34+3}{34-3} = \frac{37}{31}$$

71. (A) $\frac{1}{2} \times \pi r^2 = \pi(r - n)^2$

$$\Rightarrow \frac{1}{2} r^2 = (r - n)^2$$

$$\Rightarrow r = \sqrt{2}(r - n)$$

$$\Rightarrow r = \sqrt{2}r - \sqrt{2}n$$

$$\Rightarrow r(\sqrt{2} - 1) = \sqrt{2}n$$

$$\Rightarrow r = \frac{\sqrt{2}n}{\sqrt{2}-1}$$

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

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

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

$x = 8$ cm

73. (D) $\because$ 100% = ₹ 50,000

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

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

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

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

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MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Adversity	difficulties, misfortune	दुर्भाग्य, मुसीबत
Arousing	evoke or awaken (a feeling, emotion, or response)	उकसाना, उत्तेजित करना
Blandish	coax (someone) with kind words or flattery	चापलूसी करना
Cajole	persuade someone to do something by continuous flattery	खुशामद करना, फुसलाना
Companionship	a feeling of fellowship or friendship	मित्रता, साहचर्य
Console	comfort (someone) at a time of grief or disappointment	सांत्वना देना
Distress	extreme anxiety, sorrow, or pain	क्लेश, पीड़ा
Entice	attract or tempt by offering pleasure or advantage	लुभाना
Hierarchy	a system or organization in which people or groups are ranked one above the other according to status or authority	वैसी व्यवस्था जिसमें लोगों की प्राथमिकता उनके प्रभुत्व के अनुसार तय होती हो
Impound	seize and take legal custody of something because of an infringement of a law or regulation	जब्त करना
Incarcerate	imprison or confine	कैद करना
Infallible	incapable of making mistakes or being wrong	जो कभी कोई गलती न करे
Innate	inborn, natural	जन्मजात
Mutate	change or cause to change in form or nature	रूपांतरित करना
Prenatal	before birth	जन्म के पूर्व, प्रसव-पूर्व
Purloin	to steal (something)	चुराना
Wheedle	employ endearments or flattery to persuade someone	मीठी बातों से मनाना

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SSC Answer Key (10 Mar-17)

1. (B)
2. (B)
3. (C)
4. (C)
5. (D)
6. (C)
7. (B)
8. (D)
9. (C)
10. (C)
11. (A)
12. (C)
13. (C)
14. (C)
15. (B)
16. (C)
17. (B)
18. (C)
19. (C)
20. (C)
21. (C)
22. (C)
23. (C)
24. (B)
25. (B)
26. (C)
27. (A)
28. (A)
29. (C)
30. (A)
31. (B)
32. (D)
33. (D)
34. (B)
35. (B)
36. (D)
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38. (B)
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42. (A)
43. (A)
44. (A)
45. (D)
46. (A)
47. (A)
48. (C)
49. (B)
50. (C)
51. (B)
52. (B)
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54. (D)
55. (B)
56. (A)
57. (A)
58. (C)
59. (D)
60. (B)
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93. (B)
94. (C)
95. (A)
96. (D)
97. (C)
98. (C)
99. (B)
100. (C)

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