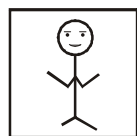



**SSC MOCK TEST - 33 (SOLUTION)**

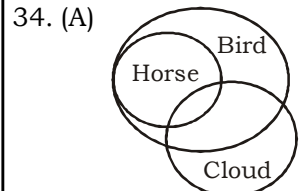
1. (D) As,  $(1)^2 = 1$   
Similarly,  $(25)^2 = 625$
2. (A) People of France are called French and people of Holland are called Dutch.
3. (B) As  $\frac{525}{21} = 25$   
Similarly,  $\frac{315}{21} = 15$
4. (B) Video is stored in a cassette and Computer uses floppy to store the data.
5. (D)
- |    |    |   |   |    |    |   |   |    |
|----|----|---|---|----|----|---|---|----|
|    |    |   |   | +2 |    |   |   |    |
| A  | B  | C | D |    | F  | G | I | H  |
| ↑  | ↑  | ↑ | ↑ |    | ↑  | ↑ | ↑ | ↑  |
| +1 | +1 |   |   |    | +1 |   |   | -1 |
- 
- |    |    |   |   |    |    |   |   |    |
|----|----|---|---|----|----|---|---|----|
|    |    |   |   | +2 |    |   |   |    |
| Y  | Z  | A | B |    | D  | E | G | F  |
| ↑  | ↑  | ↑ | ↑ |    | ↑  | ↑ | ↑ | ↑  |
| +1 | +1 |   |   |    | +1 |   |   | -1 |
6. (C) As, A D H M  
          ↓ ↓ ↓ ↓ (opposite letters)  
          Z W S N  
Similarly, CFJO → XUQL
7. (B) Quick is opposite of slow and youthful is opposite of **aged**.
8. (D) A **hydrant** is a source of water and tree is a source of sap.
9. (D) A tricycle has 3 wheels, similarly trimester has 3 months.
10. (C) As, B E H K  
          ↓ ↓ ↓ ↓ (Opposite)  
          Y V S P  
Similarly, CFIL → XURO
11. (C) On observing every options, we have.  
(a) 16, 25 ⇒  $(4)^2, (5)^2$   
(b) 36, 49 ⇒  $(6)^2, (7)^2$   
**(c) 64, 83 ⇒  $(8)^2, 83$**   
(d) 100, 121 ⇒  $(10)^2, (11)^2$
12. (B) Frog, Turtle and Crab can survive without water whereas fish can't.
13. (C) Except (63), rest are prime numbers.
14. (B) Except option (B), In others second number is divisible by first number.
15. (C) Rest of the items can be prepared from milk.
16. (D) Except (D), the difference of the numbers is divisible by 3.
17. (B) In option (B), numerator is greater than denominator
18. (D) (a)  $X \xrightarrow{+2} Z \xrightarrow{-1} Y$   
(b)  $M \xrightarrow{+2} O \xrightarrow{-1} N$   
(c)  $P \xrightarrow{+2} R \xrightarrow{-1} Q$   
**(d)  $E \xrightarrow{-4} A \xrightarrow{+2} C$**

19. (C)
20. (C) 
21. (C)
- |      |       |       |       |       |
|------|-------|-------|-------|-------|
| 1986 | 1988  | 1990  | 1992  | 1994  |
| 17   | 35    | 71    | 125   | 197   |
|      | ↑     | ↑     | ↑     | ↑     |
|      | +18×1 | +18×2 | +18×3 | +18×4 |
22. (B)
- |   |                   |                   |                   |                   |                   |    |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|----|
| 7 | 8                 | 12                | 20                | 21                | 37                | 62 |
|   | ↑                 | ↑                 | ↑                 | ↑                 | ↑                 | ↑  |
|   | +(1) <sup>2</sup> | +(2) <sup>2</sup> | +(3) <sup>2</sup> | +(4) <sup>2</sup> | +(5) <sup>2</sup> |    |
23. (C) As,  $(1 \times 2) (2 \times 2) (4 \times 2) = 248$   
and  $(1 \times 2) (2 \times 2) (3 \times 2) = 246$   
then,  $(3 \times 2) (2 \times 2) (4 \times 2) = 648$
24. (B)
25. (D) abcd / aabbccdd / aaabbbbccdddd
26. (B) The order in which boys are sitting is mentioned below.
- |   |   |       |
|---|---|-------|
| F | ← | Right |
| B | ← |       |
| C | ← |       |
| D | ← |       |
| A | ← |       |
| E | ← | Left  |
- |   |   |
|---|---|
| N | ↑ |
| W | ← |
| E | → |
| S | ↓ |
27. (D) 
28. (A) As,
- |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | U | N | C | T | U | A | L | 4 | 7 | 8 | 1 | 9 | 7 | 6 | 5 |
| ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
- Similarly,
- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| L | U | N | A | 5 | 7 | 8 | 6 |
| ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
29. (B)
30. (C)
31. (C)
32. (D)
- |   |   |   |  |
|---|---|---|--|
|   | X | Y |  |
|   | ● | ● |  |
| P | Z |   |  |
| ● | ● |   |  |
- |   |   |
|---|---|
| N | ↑ |
| W | ← |
| E | → |
| S | ↓ |
- So, P is in South west of Y.

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33. (C) Page → Books → Bookshelf →  
 (1) (4) (2)  
 Library → School  
 (3) (5)



So, only conclusion I follows.

35. (C) As,  
 $15 \times 26 = 6512$   
 and  
 $29 \times 36 = 6923$   
 Similarly,  
 $38 \times 59 = 9835$

36. (A)  $\sqrt{49} - \sqrt{4} + \sqrt{25}$   
 $\Rightarrow 7 - 2 + 5 = 10$   
 $\sqrt{81} - \sqrt{49} + \sqrt{16}$   
 $\Rightarrow 9 - 7 + 4 = 6$   
 $\sqrt{64} - \sqrt{9} + \sqrt{36}$   
 $\Rightarrow 8 - 3 + 6 = 11$

37. (D)  $2 = \sqrt{24 - 20}$   
 $3 = \sqrt{39 - 30}$   
 $4 = \sqrt{56 - 40}$

38. (A)

Top	6	3	5
Opposite	6	4	1

Here, digit 2 is missing which is opposite to 6.

39. (A) After interchanging the signs as per option (A), we have.  
 $2 \times 3 + 6 - 12 \div 4 = 17$   
 $\Rightarrow 2 + 3 \times 6 - 12 \div 4 = 17$   
 $\Rightarrow 2 + 18 - 3 = 17$

40. (C) As,  $(8)^2 (8 - 5) = 643$   
 and  $(9)^2 (9 - 2) = 817$   
 Similarly,  $(7)^2 (7 - 3) = 494$

41. (B) The given series is  
 Y U O M I E  
 ↓ ↓ ↓ ↓ ↓  
 -4 -4 -4 -4 -4

42. (C) The given series is  
 0 7 26 63 124  
 ↑ ↑ ↑ ↑  
 +7 +19 +37 +61  
 ↑ ↑ ↑  
 +12 +18 +24  
 ↑ ↑  
 +6 +6

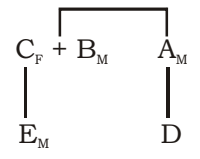
43. (B) The given series is

A  $\xrightarrow{+8}$  I  $\xrightarrow{+8}$  Q  
 B  $\xrightarrow{+8}$  J  $\xrightarrow{+8}$  R  
 E  $\xrightarrow{+8}$  M  $\xrightarrow{+8}$  U  
 F  $\xrightarrow{+8}$  N  $\xrightarrow{+8}$  V

44. (B) The given letter series is  
 D M N N / D M N N / D M N N

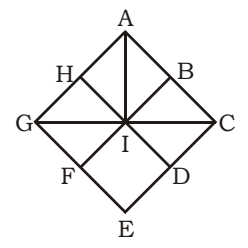
45. (D)  
 46. (A)  
 47. (D)

48. (D) After drawing the relational- diagram we have,



Clearly, we can say that E is the cousin of D.

49. (B) In the given figure, the triangles are as follows -



AIH, AIB, BIC, CID, GIH, GIF, ECG, ACG, AIG, AIC  
 $\therefore$  Total triangles = 10

50. (C)

52. (C) Under the Indian legal system, jurisdiction issues 'prerogative writs'. It is given to the Supreme Court and to the High Courts of Judicature of all Indian states. Parts of the law relating to writs are set forth in the Constitution of India. The Supreme Court which is the highest in the country, may issue writs under Article 32 of the Constitution for enforcement of Fundamental Rights and under Articles 139 for enforcement of rights other than Fundamental Rights, while High Courts, the superior courts which is of the States, may issue writs under Articles 226.

53. (A) Nadir Shah of Iran invaded India in 1739 and plundered Agra and Delhi. Along with the Peacock Throne, he also carried off the Koh-i-Noor to Persia in 1739. It was allegedly Nadir Shah who exclaimed Koh-i-Noor, when he finally managed to obtain the famous stone, and this is how the stone gained its present name. There was no reference to this name before 1739.

57. (C) After the Second Battle of Tarain and the foundation of Muslim rule in India, Muhammad Ghori returned west to Ghazni to deal with the threat to his western frontiers from the unrest in Iran, where he appointed Qutb-ud-din Aibak as his regional governor for northern India. His armies, mostly under Turkic generals continued to advance through northern India, raiding as far east as Bengal. Aibak ransacked Ayodhya temples in 1193, followed by his conquest of Delhi.
59. (C) Vijayanagara is in Bellary District, northern Karnataka. It is the name of the now-ruined capital city that surrounds modern-day Hampi, of the historic Vijayanagara empire which extended over the southern part of India. The name translates as 'City of Victory', from vijaya (victory) and nagara (city). As the prosperous capital of the largest and most powerful kingdom of its time in all of India, Vijayanagara attracted people from all around the world.
60. (A) The concept of Directive Principles of State Policy was borrowed from the Irish Constitution. The makers of the Constitution of India were influenced by the Irish nationalist movement. Hence, the Directive Principles of the Indian constitution have been greatly influenced by the Directive Principles of State Policy.
62. (A) Between 26 June, 1975 to 21 March, 1977 under controversial circumstances of political instability under the Indira Gandhi's Prime ministership — "the security of India" was declared "Threatened by internal disturbances."
64. (B) Terrace farming is a type of farming that was developed first by the Inca people. This method of farming uses "steps", called andenes that are built into the side of a mountain or hill. On each anden, various crops are planted, and when it rains, instead of washing away all of the nutrients they are stopped and protected in the next level. Additionally, these "steps" prevent a free flowing avalanche of water that would take plants with it and destroy all of the crops on the hillside.
67. (D) The Kanger Ghati National Park, near Jagdalpur, in the Bastar region of Chhattisgarh is one of the most beautiful and densest National Park which is well known for its Biodiversity with picturesque landscape, magnificent waterfalls and very famous subterranean geomorphologic limestone caves.
69. (D) A rainbow is an optical phenomenon that is caused by both reflection and refraction of light in water droplets resulting in a spectrum of light appearing in the sky. It is caused by light being refracted inside on the back of the droplet and refracted again when leaving it.
71. (A) Social accounting is a method by which a firm seeks to place a value on the impact on society of its operations. It is a systematic analysis of the effects of the organisation on its shareholders, with stakeholder input as part of the data that are analysed for the accounting statement. One social accounting system primarily attempts to measure National Income, final product, consumption and accumulation of capital.
73. (C) Anamudi is located in the Indian state Kerala. It is the highest peak in the Western Ghats and South India, at an elevation of 2,695 metres. The name Anamudi literally translates to "elephant's forehead", a reference to the resemblance of the mountain to an elephant's head.
74. (C) Relative humidity is the amount of moisture in the air compared to what the air can hold at that temperature. It signifies the mass of water vapour present in the air expressed as a percentage of the mass that would be present in an equal volume of saturated air at the same temperature. So Relative humidity is normally expressed as a percentage.
79. (B) The Kaveri, also spelled Cauvery in English, is a large Indian river. The origin of the river is traditionally placed at Talakaveri, Kopagu in the Western Ghats in Karnataka, flows generally south and east through Karnataka and Tamil Nadu and across the southern Deccan plateau through the south-eastern lowlands, emptying into the Bay of Bengal through two principal mouths. Rising in south-western Karnataka, it flows in south-east, some 800 km to enter the Bay of Bengal.
80. (C) The standard of living is a measure of the material welfare of the inhabitants of a country. The baseline measure of the standard of living is real national output per head of population or real GDP per capita. This is the value of national output divided by the resident population. Other things being equal, a sustained increase in real GDP increases a nation's standard of living providing that output rises faster than the total population.
81. (C) Chloroform was once a widely used anaesthetic. Its vapour depresses the central nervous system of a patient, allowing a doctor to perform various activities and may damage the liver where chloroform is metabolized to phosgene.

84. (C) Bhatkal, also known as Batecala in some Portuguese historical texts is a port town in Uttara Kannada district of Karnataka. Alappuzha also known as Alleppey, is a city in Alappuzha District of Kerala state of southern India. Kakinada is a city and a municipal corporation in the headquarters of East Godavari district of Andhra Pradesh. Thoothukudi, also known as Tuticorin, is a port city and a Municipal Corporation in Thoothukudi district of the Indian state of Tamil Nadu.
85. (D) Sea weed is a sourced of iodine, necessary for thyroid function and to prevent goitre. However, an excess of iodine is suspected in the heightened cancer risk in Japanese who consume a lot of the plant, and even bigger risks in post-menopausal women.
86. (A) Xerophthalmia is a medical condition in which the eye fails to produce tears. It may be caused by a deficiency in vitamin A and is sometimes used to describe that lack, although there may be other causes, Xerophthalmia caused by a severe vitamin A deficiency. It is described by pathologic dryness of the conjunctiva and wrinkled. If untreated, it can lead to corneal ulceration and ultimately to blindness as a result of corneal damage.
88. (A) The longest cell in human body is nerve cell. The ovum is the largest cell in the human body, typically visible to the naked eye without the aid of a microscope or other magnification device. The smallest is the male sperm cell, it is one-tenth of the diameter of a human hair. Now, it is true that neurone can have very long extensions or axons, the axon isn't a cell, but a peripheral extension. The actual neuron is tiny compared to the egg cell.
91. (C) In HTML, The Bold **<B></B>** element specifies that the enclosed text should be displayed in boldface. The Underlined <U></U> element specifies that the enclosed text should be displayed underlined. The Italic *<I></I>* element specifies that the enclosed text should be italicized.
93. (C) The Rajiv Gandhi Khel Ratna (RGKR) is Indira's highest honour given for achievement in sports. The words "Khel Ratna" literally mean "sports gem" in Hindi. The award is named after the late Rajiv Gandhi, former Prime Minister of India. It carries a medal, a scroll of honour and a substantial cash component. Till 2004-05, the cash component was Rs. 500,000/. The money has been increased from Rs. 500,000 to Rs. 750,000. Mahendra Singh Dhoni is an Indian cricketer and the current captain of the Indian national cricket team and the Chennai Supper Kings cricket team. He made his One Day International (ODI) debut in December 2004 against Bangladesh, and a year later played his first Test, against Sri Lanka.
95. (B) Woodrow Wilson quipped, "A living things is born" after the League Covenant was drafted in 1919. The League was an inter-governmental organisation founded on 10<sup>th</sup> January 1920 as a result of the Paris Peace Conference that ended the First World War.
96. (B) Dr. Babasaheb Ambedkar is an Indian feature film in English language, directed by Jabbar Patel. The role of Ambedkar was played by actor Mammooty: He won the National Film Award for Best Actor that year. Dr. Babasaheb Ambedkar won the National Film Awards for Best feature film in English and Best Art Direction in 1999.
98. (A) Rita Ang Sherpa, a Nepalese mountaineer has the feat of climbing Mount Everest ten times without oxygen. He first conquered Mount Everest in 1983 and then in 1984 and 1985. He went twice in 1988 and was victorious on both attempts. After these successful expeditions he continued to climb it once a year in 1990, 1992, 1993, 1995 and 1996. This resulted in him having conquered Mount Everest ten times and creating a new world record.
101. (A) CP of chair =  $\frac{100}{75} \times 720 = ₹ 960$
- To gain 25%, SP =  $\frac{125}{100} \times 960 = ₹ 1200$
102. (A) [It is to be noted that in cricket score of not out innings is not counted in total innings while its score is calculated in total score]  
Now, total score of five innings = 68 + 72 + 3 + 42 + 26 = 211  
But he has remained not out in one innings, therefore total innings counted = 4
- ∴ Average =  $\frac{211}{4} = 52.75$
- ∴ Hence, option (A) is true.
103. (B) Let the sum of money = x  
ATQ,
- $$x \times \frac{15}{4} \times \frac{1}{100} = 45$$
- $$\Rightarrow x = \frac{45 \times 100 \times 4}{15} \Rightarrow x = \text{Rs. } 1200$$
104. (B) Milk in first vessel =  $\frac{2}{5}$
- Water in first vessel =  $\frac{3}{5}$
- Milk in second vessel =  $\frac{4}{9}$
- Water in second vessel =  $\frac{5}{9}$
- ATQ, Water : Milk =
- $$\frac{2}{5} \times 1 + \frac{4}{9} \times 2 : \frac{3}{5} \times 1 + \frac{5}{9} \times 2$$
- $$\Rightarrow 58 : 77$$

105. (D)  
 $(0.98)^3 + (0.02)^3 + 3 \times 0.98 \times 0.02(0.98 + 0.02) - 1$   
 $= (0.98 + 0.02)^3 - 1 = 1^3 - 1 = 0$
106. (C) Let the first CP of the commodity be ₹ 100.  
 $\therefore$  First SP = ₹ 110  
 Second CP = ₹ 90  
 Gain =  $\frac{50}{3}\%$   
 $\therefore$  Second SP =  $\left(100 + \frac{50}{3}\right)\%$  of ₹ 90  
 $= ₹ \left(90 \times \frac{350}{300}\right) = ₹ 105$   
 Difference of SPs = ₹ (110 - 105) = ₹ 5  
 $\therefore$  If the difference is ₹ 5, then CP = ₹ 100.  
 $\therefore$  If the difference be ₹ 2,  
 then CP =  $\frac{100}{5} \times 2 = ₹ 40$
107. (A) Cost price of first rice  
 $= 25 \times 16.50 = 412.5$   
 Cost price of second rice  
 $= 35 \times 24.50 = 857.5$   
 Total cost price =  $412.5 + 857.5 = 1270$   
 Required price =  $\frac{1270 \times \frac{125}{100}}{60}$   
 $= 1270 \times \frac{5}{4} \times \frac{1}{60}$   
 $= ₹ 26.45 \approx ₹ 26.50$  per kg
108. (B) Area of the square plot  
 $= 45 \times 40 = 1800$  sq m  
 $\Rightarrow \frac{1}{2} \times (\text{diagonal})^2 = 1800$   
 $\therefore$  diagonal =  $\sqrt{1800 \times 2} = 60$  m
109. (D)  $\left(x^2 + \frac{1}{x^2}\right)^2 = x^4 + \frac{1}{x^4} + 2x^2 \cdot \frac{1}{x^2}$   
 $= 119 + 2 = 121$   
 $\therefore x^2 + \frac{1}{x^2} = 11$   
 again  $\left(x - \frac{1}{x}\right)^2 = x^2 + \frac{1}{x^2} - 2x \cdot \frac{1}{x}$   
 $= 11 - 2 = 9$   
 $\therefore x - \frac{1}{x} = 3$   
 $\Rightarrow \left(x - \frac{1}{x}\right)^3 = 3^3$   
 $\Rightarrow x^3 - \frac{1}{x^3} - 3x \cdot \frac{1}{x} \left(x - \frac{1}{x}\right) = 27$   
 $\Rightarrow x^3 - \frac{1}{x^3} - 3 \times 3 = 27$   
 $\therefore x^3 - \frac{1}{x^3} = 27 + 9 = 36$
110. (C) In  $\triangle ABC$ ,  $\triangle ACD$ ,  $\triangle BCD$  and  $\triangle ABD$   
 $AB + BC > AC$   
 $CD + DA > AC$   
 $BC + CD > BD$   
 $DA + AB > BD$   
 Adding above inequalities  
 $2(AB + BC + CD + DA) > 2(AC + BD)$   
 $\Rightarrow AB + BC + CD + DA > (AC + BD)$
111. (A)  $3 \sec A - 2 \cos B = \sqrt{3}$   
 $\Rightarrow 3 \sec A - 2 \cos 30^\circ = \sqrt{3}$   
 $\Rightarrow 3 \sec A - 2 \cdot \frac{\sqrt{3}}{2} = \sqrt{3}$   
 $\Rightarrow 3 \sec A = 2\sqrt{3}$   
 $\Rightarrow \sec A = \frac{2}{\sqrt{3}} = \sec 30^\circ$   
 $\Rightarrow A = 30^\circ$   
 $\therefore \cos(A - B)$   
 $= \cos(30^\circ - 30^\circ) = \cos 0 = 1$
112. (D)  $\frac{M_1 D_1 T_1}{W_1} = \frac{M_2 D_2 T_2}{W_2}$   
 $\frac{2 \times 2}{2} = \frac{100 \times x}{100}$   
 $\Rightarrow x = 2$  days
113. (A) Remaining distance  
 $= (3584 - 1440 - 1608)$  km = 536 km  
 This distance is covered at the rate of  
 $= \frac{536}{8} = 67$  kmph  
 Average speed of whole journey  
 $= \frac{3584}{56} = 64$  kmph  
 $\therefore$  Required difference  
 $= (67 - 64)$  kmph = 3 kmph more
114. (C) First 8 litre milk + 5 litre water  
 Second 10 litre milk + 3 litre water  
 In first, milk =  $\frac{8}{13}$   
 In second, milk =  $\frac{10}{13}$   
 Ratio =  $\frac{8}{13} : \frac{10}{13} = 4 : 5$
115. (D)  $\frac{6}{100}$  of  $x = \frac{10}{100}$  of  $y$   
 $\therefore \frac{x}{y} = \frac{10}{6} = \frac{5}{3} = 5 : 3$   
 difference of two parts =  $\frac{(5-3)}{(5+3)} \times 2400 = 600$



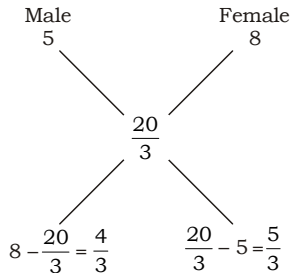
116. (A) Increased percent of population

$$= \frac{96000 - 90000}{90000} \times 100$$

$$= \frac{6000}{90000} \times 100$$

$$= \frac{20}{3}$$

Required ratio



Male : Female = 4 : 5

117. (B) For first 6 year

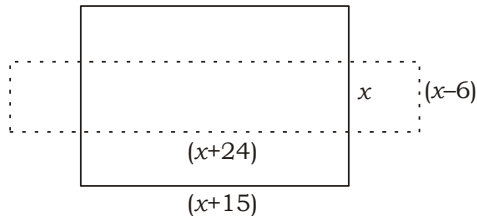
$$\frac{x \times r \times 6}{100} = 250$$

Next 6 year, principle is double i.e.

$$\frac{2x \times r \times 6}{100} = 2 \times 250 = 500$$

⇒ Total interest at the end of 12 years is 250 + 500 = Rs. 750

118. (B)



Let, breadth of rectangular board 18 x.  
Then, length = 15 + x.

$$\begin{array}{ccc} & l & b \\ \text{New} & x + 15 & x \\ & x + 24 & x - 6 \end{array}$$

$$x(x+15) = (x-6)(x+24)$$

$$x^2 + 15x = x^2 + 24x - 6x - 24 \times 6$$

$$15x = 18x - 144$$

$$3x = 144 \Rightarrow x = 48$$

i.e. breadth = 48 cm  
length = 48 + 15 = 63 cm

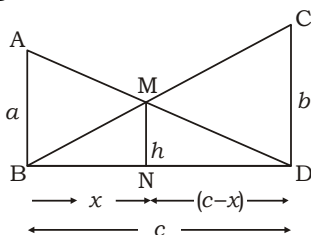
119. (B) ∴ (a + b)(a<sup>2</sup> + b<sup>2</sup> - ab) = a<sup>3</sup> + b<sup>3</sup>

$$\therefore (x+2y) \{x^2 + (2y)^2 - 2y \cdot x\}$$

$$= x^3 + (2y)^3 = x^3 + 8y^3$$

120. (B) Here ΔBNM ~ ΔBDC

$$\text{So, } \frac{BN}{BD} = \frac{MN}{CD} = \frac{MN}{CD}$$



$$\text{or } \frac{x}{c} = \frac{h}{b} \Rightarrow x = \frac{ch}{b}$$

Also ΔDNM ~ ΔDBA

$$\frac{DN}{DB} = \frac{MN}{AB} = \frac{MD}{AD}$$

$$\therefore \frac{c-x}{x} = \frac{h}{a}$$

$$\Rightarrow ac - ax = hc$$

$$\Rightarrow x = \frac{ac - ch}{a}$$

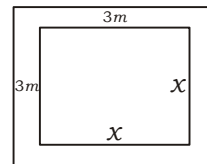
From (i) and (ii),  $\frac{ch}{b} = \frac{ac - ch}{a}$

$$\Rightarrow a(ch) = b(ac - ch)$$

$$\Rightarrow ach + bch = abc$$

$$\Rightarrow h = \frac{ab}{a+b} \text{ metre}$$

121. (B)



ATQ,

$$(x+6)^2 - x^2 = 96$$

$$x^2 + 36 + 12x - x^2 = 96$$

$$12x = 60 \Rightarrow x = 5$$

area of square room = 5<sup>2</sup> = 25 sq.m.

122. (B)  $\sin \theta = -\frac{12}{13}$  and  $\pi < \theta < \frac{3\pi}{2}$

$$\sec \theta = -\frac{1}{\sqrt{1 - \sin^2 \theta}} = -\frac{1}{\sqrt{1 - \left(\frac{12}{13}\right)^2}} = -\frac{1}{\sqrt{\frac{25}{169}}}$$

$$\sec \theta = -\frac{13}{5}$$

123. (D) (ii) Part of the cistern filled in 1 hour when pipes

$$\text{P and S are open} = \frac{1}{4} - \frac{1}{10} = \frac{5-2}{20} = \frac{3}{20}$$

Hence, the cistern will be filled in  $\frac{20}{3}$  hr.

(iii) Part of the cistern filled in 1 hour when pipes P, R and S are open

$$= \frac{1}{4} + \frac{1}{12} - \frac{1}{10} = \frac{15+5-6}{60} = \frac{14}{60} = \frac{7}{30}$$

Hence, the cistern will be filled in  $\frac{30}{7}$  hr.

(iv) Part of the cistern filled in 1 hour when pipes P, Q and S are open

$$= \frac{1}{4} + \frac{1}{8} - \frac{1}{10} = \frac{10+5-4}{40} = \frac{11}{40}$$

Hence the cistern will be filled in  $\frac{40}{11}$  hr.

Hence, the last one take minimum time than the others.

124. (B) Difference of time  
 = 6 min - 5 min 52 sec = 8 seconds  
 Distance covered by man in 5 min 52 sec.  
 = Distance covered by sound in 8 seconds  
 =  $330 \times 8 = 2640$  m

$$\therefore \text{Speed of man} = \frac{2640 \text{ m}}{5 \text{ min. } 52 \text{ sec.}}$$

$$= \frac{2640}{352} \text{ m/sec} = \frac{2640}{352} \times \frac{18}{5} \text{ kmph}$$

$$= 27 \text{ kmph}$$

125. (A) Here  $\angle PSQ = 180^\circ - (110^\circ + 30^\circ)$   
 $\angle PSQ = 40^\circ$   
 $\angle QSR = 75^\circ - 40^\circ = 35^\circ$   
 $\angle QSR + \angle SRT = 180^\circ$  [ $\because$  SQ || RT]  
 $35^\circ + 60^\circ + x = 180^\circ$   
 $x = 180^\circ - 95^\circ$   
 $x = 85^\circ$

126. (D)  $x = \frac{4ab}{a+b} = \frac{2a \times 2b}{a+b}$

$$\Rightarrow \frac{x}{2a} = \frac{2b}{a+b}$$

by componendo and dividendo rule

if  $\frac{a}{b} = \frac{c}{d}$  then  $\frac{a+b}{a-b} = \frac{c+d}{c-d}$

$$\therefore \frac{a+2a}{a-2a} = \frac{2b+(a+b)}{2b-(a+b)} = \frac{a+3b}{b-a}$$

similarly  $\frac{x}{2b} = \frac{2a}{a+b}$

$$\text{so } \frac{x+2b}{x-2b} + \frac{x+2b}{x-2a} = \frac{a+3b}{b-a} + \frac{3a+b}{a-b}$$

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

$$= \frac{(a+3b) - (3a+b)}{b-a}$$

$$= \frac{2b-2a}{b-a} = \frac{2(b-a)}{(b-a)} = 2$$

127. (B) Let marked price = ₹  $x$ , then

$$\frac{x \times 95}{100} = \frac{95 \times 110}{100}$$

$$\Rightarrow x = ₹ 110$$

128. (C) Let the average age be  $x$ .

Total age =  $45x$

Let the required age be  $y$ .

ATQ,

$$45x - 60 = 45x - 45 \times \frac{1}{9} + y$$

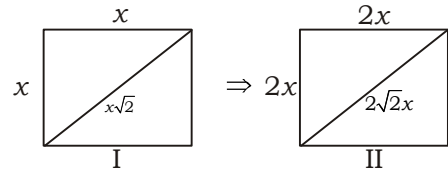
$$\Rightarrow y = -60 + 45 \times \frac{1}{9}$$

$$\Rightarrow y = -55 \text{ years}$$

Age should not be negative.

i.e. the new comer age is 55 years.

129. (C)

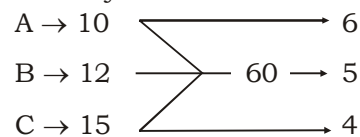


area I =  $x^2$

area II =  $(2x)^2 = 4x^2$

i.e. New area will be 4 times of first.

130. (C) Days Efficiency



Total work = 60

A left the work before 5 days of completion  
 i.e. work left by A is

$$5 \times 6 = 30$$

B left the work before 3 day of completion  
 i.e. work left of B is

$$5 \times 3 = 15$$

$$\text{Now total work} = 60 + 30 + 15 = 105$$

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

131. (A) Suppose P be the summit of the mountain and Q be the foot. Here BN and BM are perpendiculars from B to PQ and AQ respectively.

Here AB = 100 m = 1 km

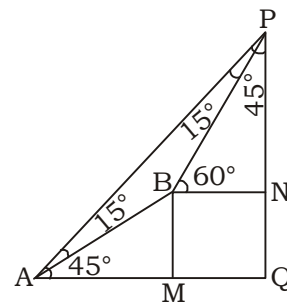
$$\angle MAB = 30^\circ, \angle MAP = 45^\circ,$$

$$\angle NBP = 60^\circ, \angle BAP = 15^\circ$$

$$\angle APB = 15^\circ$$

$\therefore \triangle ABP$  is isosceles and AP = BP

But AB = 1 km = PB



In  $\triangle PBN$

$$PN = BP \sin 60^\circ$$

In  $\triangle ABM$

$$BM = AB \sin 30^\circ$$

$$PQ = PN + NQ$$

$$= PN + BM$$

$$= BP \sin 60^\circ + AB \sin 30^\circ$$

$$= 1 \cdot \frac{\sqrt{3}}{2} + 1 \cdot \frac{1}{2} = \frac{\sqrt{3}+1}{2}$$

$\therefore$  Height of the mountain is  $\frac{\sqrt{3}+1}{2}$  km.

132. (A) Ratio of speeds = 3 : 4  
Ratio of time taken = 4 : 3  
Let the time taken by A and B be  $4x$  hours and  $3x$  hours respectively.

$$\text{Then, } 4x - 3x = \frac{20}{60}$$

$$\Rightarrow x = \frac{1}{3}$$

$\therefore$  Time taken by A =  $4x$  hours

$$= \left(4 \times \frac{1}{3}\right) \text{ hours} = 1\frac{1}{3} \text{ hours}$$

133. (B) As in  $\triangle BGC$

$EF \parallel BG$

$$\therefore \angle CEF = \angle CBG \quad (\text{corresponding angles})$$

$$= 90^\circ - \angle ECF \quad \{\because \angle ABG = \angle ECF\}$$

$$= 90^\circ - (90^\circ - \angle BAG)$$

$$\Rightarrow \angle CBG = \angle BAG$$

$$\therefore \angle CEF = \angle BAG$$

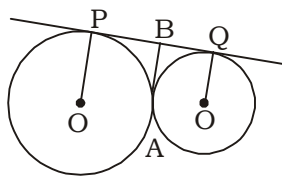
134. (B)  $\frac{\cos(90^\circ + A)\sec(360^\circ - A)\tan(180^\circ - A)}{\sec(A - 720^\circ)\sin(540^\circ + A)\cot(A - 90^\circ)}$

$$= \frac{(-\sin A)\sec A[-\tan(A)]}{\sec(720^\circ - A)\sin(360^\circ + 180^\circ + A)[- \cot(90^\circ - A)]}$$

$$= \frac{\sin A \sec A \tan A}{\sec A (-\sin A)(-\tan A)}$$

$$= \frac{\sin A \sec A \tan A}{\sin A \sec A \tan A} = 1$$

135. (D)  $PQ^2 = (R + r)^2 - (R - r)^2 = 4Rr$



136. (B)  $a^2 + b^2 + c^2 = ab + bc + ca$   
 $\Rightarrow a^2 + b^2 + c^2 - ab - bc - ca = 0$

$$\text{or } \frac{(a-b)^2 + (b-c)^2 + (c-a)^2}{2} = 0$$

$$\text{or } (a-b)^2 + (b-c)^2 + (c-a)^2 = 0$$

$$\therefore (a-b)^2 = 0 \text{ from } a = b$$

$$\text{Thus } b = c \text{ and } c = a$$

$$\therefore a = b = c$$

$$\therefore \frac{a+c}{b} = \frac{a+a}{a} = \frac{2a}{a} = 2$$

137. (D) Let the last number be  $x$ .

According to the question,

$$18 \times 10 + 11 \times 20 + x = 30 \times 15$$

$$\Rightarrow 180 + 220 + x = 450$$

$$\Rightarrow 400 + x = 450$$

$$\Rightarrow x = 450 - 400 = 50$$

138. (C) Given

$$\Rightarrow P \left(1 + \frac{r}{100}\right)^4 = 3840$$

$$\Rightarrow P \left(1 + \frac{r}{100}\right)^5 = 3936$$

ATQ,

$$\Rightarrow \frac{P \left(1 + \frac{r}{100}\right)^5}{P \left(1 + \frac{r}{100}\right)^4} = \frac{3936}{3840}$$

$$\Rightarrow 1 + \frac{r}{100} = \frac{3936}{3840}$$

$$\Rightarrow \frac{r}{100} = \frac{3936}{3840} - 1 = \frac{96}{3840}$$

$$\Rightarrow r = \frac{96}{3840} \times 100 = 2.5\%$$

139. (B) If three consecutive numbers are  $x$ ,  $x + 2$  and  $x + 4$  then  $x + (x + 2) + (x + 4)$

$$= 176 \times \frac{1}{4} - 14$$

$$3x + 6 = 30 \quad \Rightarrow x = \frac{24}{3} = 8$$

$$\text{middle number} = 8 + 2 = 10$$

140. (C)  $\left[\sqrt[3]{\sqrt[6]{5^9}}\right]^4 \left[\sqrt[6]{\sqrt[3]{5^9}}\right]^4$

$$= \left[\{(5^9)^{1/6}\}^{1/3}\right]^4 \left[\{(5^9)^{1/3}\}^{1/6}\right]^4$$

$$= \left(5^{9 \times \frac{1}{6} \times \frac{1}{3} \times 4}\right) \left(5^{9 \times \frac{1}{3} \times \frac{1}{6} \times 4}\right) = (5^2)(5^2) = 5^4$$

141. (C) Total discount = ₹ (820 - 570.72)  
= ₹ 249.28

$$\text{First discount} = 820 \times \frac{20}{100} = ₹ 164$$

$\therefore$  Second discount

$$= ₹ (249.28 - 164) = ₹ 85.28$$

Price of the article after first discount

$$= ₹ (820 - 164) = ₹ 656$$

If the second discount be  $x\%$ , then

$$x\% \text{ of } 656 = 85.28$$

$$\Rightarrow x = \frac{85.28 \times 100}{656} = 13\%$$



142. (A) Per quintal cost of two different sorts of

$$\text{rice} = \frac{4642.50}{60} = ₹ 77.375 \text{ per quintal}$$

$$\text{Proportion} = \frac{75.50 - 77.375}{77.375 - 80}$$

$$= \frac{1.875}{2.625} = 5 : 7$$

$$\text{The quantity of better sort} = \frac{60}{12} \times 5 = 25$$

quintals and the quantity of worse sort

$$= \frac{60}{12} \times 7 = 35 \text{ quintals.}$$

143. (B)  $l \times b =$  Perimeter of Room

$$l \times 2 = 2(l + b) \times h$$

$$l = \frac{2 \times 4(8.3 + 4.2)}{2} = 50 \text{ m}$$

144. (B) 3 part of first liquid and 6 part of second  
i.e. total part = 9

$$\Rightarrow 16 \times \frac{3}{9} + 4 \times \frac{6}{9}$$

as 16% milk has 3 part and 4% milk has 6 part

$$\text{So Total milk} = \frac{16}{3} + \frac{8}{3} = \frac{24}{3} = 8\%$$

145. (B)  $\tan \theta = \frac{12}{13}$

$$\therefore \frac{2 \sin \theta \cdot \cos \theta}{\cos^2 \theta - \sin^2 \theta} = \frac{2 \tan \theta}{1 - \tan^2 \theta} = \frac{2 \times \frac{12}{13}}{1 - \frac{144}{169}}$$

$$= 2 \times \frac{12}{13} \times \frac{169}{25} = \frac{312}{25}$$

146. (D)  $100\% = 360^\circ$

$$\therefore 1\% = \frac{360^\circ}{100}$$

$$\therefore 10\% = \frac{360^\circ \times 10}{100} = 36^\circ$$

147. (B) 35% total cost = ₹ 17500

$\therefore$  15% of total cost

$$= ₹ \frac{17500 \times 15}{35} = ₹ 7500$$

148. (C) Difference in percent cost of 'binding and cutting charges' and 'royalty'

$$= (18 - 15)\% = 3\%$$

Now,  $\therefore$  4% of total cost = ₹ 6000

$\therefore$  3% of total cost

$$= ₹ \frac{6000 \times 3}{4} = ₹ 4500$$

149. (B) Difference in percent expenses on printing cost and advertisement charges

$$= (35 - 18)\% = 17\%$$

Now,  $1\% = 3.6^\circ$

$$\therefore 17\% = 3.6\% \times 17 = 61.2^\circ$$

150. (B) The required percent

$$= \frac{10 \times 100}{35} = 28.6\% \text{ (approx.)}$$

## MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Accustom	Make habitual of	आदत डालना
Awry	Not straight or neat	टेढ़ा
Axiomatic	Evident without proof or argument	स्वयंसिद्ध
Boaster	A very boastful and talkative person	शेखीबाज
Coalition	The union of diverse things into one body or form or group	गठबंधन
Collusion	Secret agreement especially in order to do something dishonest or to trick people	मिलीभगत
Contemporary	Belonging to the present time	आधुनिक
Contrived	Having an unnatural or false appearance or quality	अवास्तविक
Converse	Social interaction/conversation	वार्तालाप
Covert	Secret or hidden	छिपा हुआ
Crestfallen	Sad and disappointed because you have failed and you did not expect to	हतोत्साहित
Customary	In accordance with convention or custom	सामाजिक नियमानुसार
Defalcation	The sum of money that is misappropriated	गबन
Disciplinarian	A person who believes in using rules and punishments for controlling people	नियम पालन करने वाला
Discrimination	The cognitive process whereby two or more things are distinguished	भेदभाव
Encroaching	Gradually intrusive without right or permission	अतिक्रमणकारी
Illuminated	Decorated with bright lights	सुसज्जित
Imbecility	A stupid mistake	मूर्खता
Indignant	Angered at something unjust or wrong	क्रोधित
Irreligious	Not believing in or practising any religion	अधार्मिक
Irreverent	lacking proper respect or seriousness	अनादरयुक्त
Junk	Things that are considered useless or of little value	कचरा
Lamentable	Deserving to be criticized or regretted	निंदनीय
Mere	Being nothing more than specified	मात्र
Nimble	Moving quickly and lightly	फुर्तीला
Overt	Open and observable, not secret or hidden	प्रत्यक्ष, प्रकट
Prospects	The possibility that something will happen	संभावना
Righteousness	Behaviour that is morally right or good	नेक, न्यायसंगत
Sacrosanct	Holy	परमपावन, पवित्र
Sane	Having a healthy mind, able to think normally	मानसिक रूप से स्वस्थ
Senility	Mental infirmity as a consequence of old age; sometimes shown by foolish infatuations	बुढ़ापा
Sensationalism	A way of getting people's interest by using shocking words or by presenting facts and events as worse or more shocking than they really are	सनसनी फैलाने का कार्य
Snob	A person regarded as arrogant and annoying	मिथ्याभिमानी, नखरेबाज
Superannuation	The act of discharging someone because of age (especially to cause someone to retire from service on a pension)	उम्र के आधार पर सेवानिवृत्ति
Vainglorious	Too proud of your own abilities or achievements	घमंडी

**SSC MOCK TEST - 33 (ANSWER KEY)**

- |         |         |         |          |          |          |          |          |
|---------|---------|---------|----------|----------|----------|----------|----------|
| 1. (D)  | 26. (B) | 51. (A) | 76. (C)  | 101. (A) | 126. (D) | 151. (C) | 176. (A) |
| 2. (A)  | 27. (D) | 52. (C) | 77. (A)  | 102. (A) | 127. (B) | 152. (B) | 177. (A) |
| 3. (B)  | 28. (A) | 53. (A) | 78. (D)  | 103. (B) | 128. (C) | 153. (C) | 178. (C) |
| 4. (B)  | 29. (B) | 54. (D) | 79. (B)  | 104. (B) | 129. (C) | 154. (B) | 179. (B) |
| 5. (D)  | 30. (C) | 55. (B) | 80. (C)  | 105. (D) | 130. (C) | 155. (B) | 180. (D) |
| 6. (C)  | 31. (C) | 56. (C) | 81. (C)  | 106. (C) | 131. (A) | 156. (C) | 181. (B) |
| 7. (B)  | 32. (D) | 57. (C) | 82. (D)  | 107. (A) | 132. (A) | 157. (A) | 182. (C) |
| 8. (D)  | 33. (C) | 58. (C) | 83. (B)  | 108. (B) | 133. (B) | 158. (D) | 183. (D) |
| 9. (D)  | 34. (A) | 59. (C) | 84. (C)  | 109. (D) | 134. (B) | 159. (B) | 184. (D) |
| 10. (C) | 35. (C) | 60. (A) | 85. (D)  | 110. (C) | 135. (D) | 160. (A) | 185. (*) |
| 11. (C) | 36. (A) | 61. (B) | 86. (A)  | 111. (A) | 136. (B) | 161. (B) | 186. (*) |
| 12. (B) | 37. (D) | 62. (A) | 87. (A)  | 112. (D) | 137. (D) | 162. (B) | 187. (*) |
| 13. (C) | 38. (A) | 63. (A) | 88. (A)  | 113. (A) | 138. (C) | 163. (D) | 188. (A) |
| 14. (B) | 39. (A) | 64. (B) | 89. (A)  | 114. (C) | 139. (B) | 164. (B) | 189. (A) |
| 15. (C) | 40. (C) | 65. (C) | 90. (D)  | 115. (D) | 140. (C) | 165. (C) | 190. (A) |
| 16. (D) | 41. (B) | 66. (A) | 91. (C)  | 116. (A) | 141. (C) | 166. (D) | 191. (D) |
| 17. (B) | 42. (C) | 67. (D) | 92. (A)  | 117. (B) | 142. (A) | 167. (D) | 192. (B) |
| 18. (D) | 43. (B) | 68. (D) | 93. (C)  | 118. (B) | 143. (B) | 168. (C) | 193. (D) |
| 19. (C) | 44. (B) | 69. (D) | 94. (A)  | 119. (B) | 144. (B) | 169. (D) | 194. (D) |
| 20. (C) | 45. (D) | 70. (C) | 95. (B)  | 120. (B) | 145. (B) | 170. (B) | 195. (C) |
| 21. (C) | 46. (A) | 71. (A) | 96. (B)  | 121. (B) | 146. (D) | 171. (B) | 196. (B) |
| 22. (B) | 47. (D) | 72. (D) | 97. (A)  | 122. (B) | 147. (B) | 172. (A) | 197. (C) |
| 23. (C) | 48. (D) | 73. (C) | 98. (A)  | 123. (D) | 148. (C) | 173. (B) | 198. (C) |
| 24. (B) | 49. (B) | 74. (C) | 99. (B)  | 124. (B) | 149. (B) | 174. (B) | 199. (A) |
| 25. (D) | 50. (C) | 75. (A) | 100. (A) | 125. (A) | 150. (B) | 175. (C) | 200. (B) |

151. (C) Replace 'on' by 'off'. The word 'told off' means 'to scold someone'.
152. (B) When two actions take place one after the other in future, and if the second action depends on the first action, the first action is in simple present tense and the second action is in simple future tense. Replace 'will arrive' by 'arrive'.
153. (C) Work is uncountable. Hence 'work' cannot take 'a'. Replace 'a new work' by 'a new piece of work'.
154. (B) The correct form of the sentence should be : sub + want + noun/pronoun + infinitive + etc.  
 Thus, replace 'that I be' by 'me to become'.
155. (B) Adverb of frequency (i.e. usually) should come before the main word that it qualifies. 'Usually' should come before 'every day'.

**Corrections**

185. Overt and covert are antonyms.  
 186. Nimble and Quickening are synonyms.  
 187. Lamentable and deplorable are synonyms.

**Mock 32 Corrections**

73. (B) 80. (A)

**Mock 31 Corrections**

85. (B)

**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**