

CPO MOCK TEST - 15 (SOLUTION)

1. (A) Transaction of second is done through the first.

2. (D) The relation is $\sqrt[3]{x} : (\sqrt[3]{x} + 1)^3 + 1$.
Put $x = 8, 27$

$$\text{For } x = 8, \text{ result} = (\sqrt[3]{8} + 1)^3 + 1 = 27 + 1 = 28$$

$$\text{For } x = 27, \text{ result} = (\sqrt[3]{27} + 1)^3 + 1 = 64 + 1 = \mathbf{65}$$

3. (A) The relation is $\sqrt{x} : (\sqrt{x} - 1)^3$

$$\text{For } x = 9, \text{ result} = (\sqrt{9} - 1)^3 = (2)^3 = 8$$

$$\text{For } x = 16, \text{ result} = (\sqrt{16} - 1)^3 = (3)^3 = \mathbf{27}$$

4. (D)

L	O	G	I	C
↑+1	↑+1	↑+1	↑+1	↑+1
K	N	F	H	B
				Reverse
				B H F N K

C	L	E	R	K
↑+1	↑+1	↑+1	↑+1	↑+1
B	K	D	Q	J
				Reverse
				J Q D K B

5. (A) A car runs on petrol whereas Television works by **Electricity**.

6. (C)

B	L	O	C	K	E	D	Y	O	L	X	P	V	W
Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse

O	Z	F	M	X	S	L	A	U	N	C	H
Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse	Reverse

7. (C) Calendar is a list of dates whereas dictionary is a collection of **words**.

8. (A)

U	S	P	L
↑+1	↑+3	↑+3	↑+1
T	P	M	K
			Reverse
			K M P T

L	J	G	C
↑+1	↑+3	↑+3	↑+1
K	G	D	B
			Reverse
			B D G K

9. (A) All except dog come under the category of cattle.

10. (A) All except Taxi are pulled by living being.

11. (A) Second number = (First number)²/2, (2 - 4) is not following the same.

12. (D) All the pairs except (D) consist of prime number. 14 is not a prime number.

13. (D) Only 83 is a prime number.

14. (A) All except Record are the brief notation used in a language.

15. (A) All except Sparrow are flesh eating birds.

16. (C)

17. (A) Here, the answer will be the product of number of consonants and vowels in the given word.

$$\text{So, required answer} = 5 \times 3 = \mathbf{15}.$$

18. (D) We can find only one 'T' in GOVERNMENT ROCKS!.

19. (C) It is clear from the position of given die that the numbers 2, 3, 1 and 6 can't appear opposite to 4. So, it is clear that 5 appears opposite to 4. Since, in each of the die 4 appears on the top. So, 5 will be at the bottom of each die. Hence (C) is the right option.

20. (C) We have,

$$30\left(H - \frac{M}{5}\right) + \frac{M}{2} \text{ degree}$$

$$= 30\left(9 - \frac{25}{5}\right) + \frac{25}{2} \text{ degree}$$

$$= 30 \times 4 + 12.5 \text{ degree}$$

$$= 132.5^\circ$$

$$\therefore \text{Reflex angle} = 360 - 132.5 = \mathbf{227.5}$$

21. (C) $(6^2 + 3^2) - (4^2 + 2^2) = (36 + 9) - (16 + 4)$

$$= 45 - 20 = 25$$

$$(11^2 + 7^2) - (8^2 + 6^2) = (121 + 49) - (64 + 36)$$

$$= 170 - 100 = 70$$

$$(4^2 + 1^2) - (5^2 + x^2) = -12$$

$$\Rightarrow (17 + 12) = (25 + x^2)$$

$$\Rightarrow x^2 = 4$$

$$\Rightarrow x = \mathbf{2}$$

22. (D) $(101 + 15) - (43 + 35) = 116 - 78 = 38$

$$(48 + 184) - (56 + 34) = 232 - 90 = \mathbf{142}$$

23. (B) $(15 - 5) + (6 \times 2) = 22$

$$(6 - 2) + (5 \times 3) = 19$$

$$(14 - 10) + (3 \times 2) = \mathbf{10}$$

24. (B) $16 \times 4 = 64 \Rightarrow 6 - 4 = 2$

$$9 \times 8 = 72 \Rightarrow 7 - 2 = 5$$

$$27 \times 3 = 81 \Rightarrow 8 - 1 = \mathbf{7}$$

25. (C) $934 - 678 = 256$
 26. (D) 8
 27. (A) Consider $A = 1, B = 2 \dots, Z = 26$
 We have PRATAP = $16 - 18 - 1 - 20 - 1 - 16$
 $= 1618120116$
 So, NAVIN = $14 - 1 - 22 - 9 - 14$
 $= 14122914$

28. (C) A nib is fitted in the pen to write with it. But a nib is called needle. So, a needle will be fitted in the pen.

29. (B) \leftarrow left end right end \rightarrow
 1 2 3 4 5 6 7 8 9 10
 Ashutosh (current position) Ashutosh (previous position)

So, option (B) is the right answer.

30. (B) The pattern is: $+20.5, +22.5, +24.5, +26.5$
 So, Required number = $138 + 24.5 = 162.5$
 31. (A) The pattern is:
 $\times 3 - 1, \times 3 - 2, \times 3 - 3, \times 3 - 4, \times 3 - 5$
 So, required number = $185 \times 3 - 5 = 550$
 32. (B) The pattern is:
 $+1, +(1 + 2), +(1 + 2 + 3), +(1 + 2 + 3 + 4),$
 $+(1 + 2 + 3 + 4 + 5).$
 So, required number = $15 + 10 = 25$
 33. (A) In terms of height, we have the following sequence: $Q < P, R < P, T < S, S < Q.$

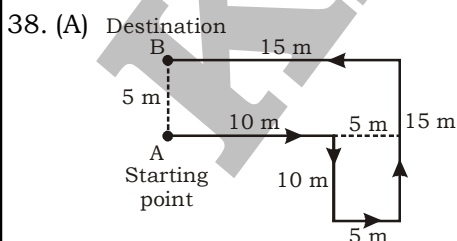
Now the sequence becomes

- (i) $T < S < Q < R < P$
 (ii) $T < S < R < Q < P$

In both the sequences, we can observe that P is the tallest.

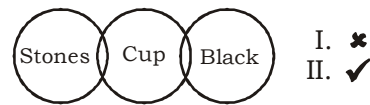
34. (B) A is the brother of F, who is the daughter of D. So, we can say that A is the son of D. P is the brother of D. So, it is clear that P is the uncle of A.
 35. (C) After interchanging the signs, we have
 $1 \times 9 - 3 \div 1 \div 3 + 1 = 1 \times 9 - 3 \div 3 + 1$
 $= 1 \times 9 - 1 + 1$
 $= 9 - 1 + 1 = 9$

36. (C)
 37. (D) 15



Required distance = 5 m.

39. (A) Only conclusion II follows.



40. (A) Let the age of father and son be x and y respectively.
 $x - y = y \Rightarrow x = 2y$
 now, $x = 36$
 $\Rightarrow 2y = 36$
 $\Rightarrow y = 18$
 So, age of son 5 years ago = $18 - 5 = 13$ yrs

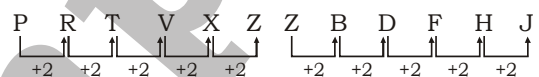
41. (B) $c \underline{c} ac \underline{c} / aa \underline{b} aa / \underline{b} bc \underline{b} b / cc$

42. (C) $b \underline{a} b \underline{b} b / b \underline{a} \underline{b} bb / b \underline{a} bb \underline{b} / b$

43. (C)

Word	A	R	D	E	N	T
Code	5	4	3	6	2	1

44. (B) $C \quad E \quad G \quad I \quad K \quad M \quad M \quad O \quad R \quad T \quad V \quad X$
 $\quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 $\quad +2 \quad +2 \quad +2 \quad +2 \quad +2 \quad +2 \quad +3 \quad +2 \quad +2 \quad +2$



45. (D) Total no. of routes = $4 \times 3 \times 2 = 24$

46. (C)
 47. (C)
 48. (C)
 49. (B)
 50. (B)

51. (D) Uttarakhand movement is termed to the events of statehood activism within the state Uttar Pradesh which ultimately resulted in a separate state Uttarakhand of the Republic of India. Uttarakhand became a separate state of Uttar Pradesh on **November 9, 2000.**

52. (D) The Central government has announced to launch a water conservation scheme, "Atal Bhujal Yojana" for sustainable groundwater management in water-stressed states. These are - Gujarat, Haryana, Karnataka, Maharashtra, Uttar Pradesh, Rajasthan and Madhya Pradesh. The Centre will support half of the total project cost and rest of the budgetary cost will be shared by the World Bank.

54. (C) The Hazratbal is a Muslim shrine in Srinagar, Jammu & Kashmir. It contains a relic, the Moi-e-Muqqadas. It is believed by many Muslims of Kashmir that hair of the Holy Prophet Muhammad has been preserved. The shrine is situated on the left bank of the Dal Lake, Srinagar and is

- considered to be Kashmir's holiest Muslim shrine.
55. (A) The frog excretes urea thus, is a ureotelic animal. It is carried by blood into the kidney where it is separated and excreted.
56. (A) Prime Minister Narendra Modi and Prime Minister K.P. Sharma Oli have jointly inaugurated a direct bus service between Janakpur and Ayodhya, the two sacred cities for Hindus.
57. (B) The Nobel Prize is widely regarded as the most prestigious award available in the fields of literature, medicine, physics, chemistry, peace, and economics.
59. (D)

Discovery	Scientist	Year
Diode Bulb	Sir J.S. Fleming	1904
Triode Bulb	Lee de Forest	1906
Radioactivity	Henry Becquerel	1896
Law of floatation	Archimedes	1827
60. (C) Kerala government declared jackfruit as its official fruit. The aim is to promote the 'Kerala jackfruit' as a brand in markets across the country and abroad, showcasing its organic and nutritious qualities.
61. (D) The world's longest sandstone cave, naming "Krem Puri" is discovered in Meghalaya. The cave is 24,583 metres (24.5 km) in length and is known for its complex cave systems hidden under its undulating hills.
62. (B) On April 18, 1853, the first Indian train popularly called Aag Gadi was steamed off from Bombay to Thane. The train was drawn by three engines named "Sahib", "Sindh" and "Sultan" and it covered the 34 km distance in 57 minutes.
64. (B) The clitellum is a thickened glandular and non-segmented section of the body wall near the head in earthworms and leeches, that secretes a viscid sac in which the eggs are deposited. It is present about 2 cm (0.79 in) behind the anterior end of the body (around the 14th, 15th and 16th segments).
66. (D) Born in Patara, a land that is part of present-day Turkey, St. Nicholas was a Christian bishop who helped the needy. After his death, the legend of his gift-giving grew. St. Nicholas transformed into the legendary character called Santa Claus, who brings Christmas presents to children around the world.
67. (D) Clip art, (in the graphic arts,) is a collection of pre-made images or pictures used to illustrate any medium. Today, clip art is used extensively in both personal and commercial projects.
68. (C) Ellora is an archaeological site 29 km (18 mile) north-west of the city of Aurangabad in Maharashtra. It was built by the Rashtrakuta dynasty (Brahmanical & Buddhist group of caves) and Yadav (Jain group of caves). It is well known for its monumental caves, Ellora is an UNESCO World Heritage Site and also forms one of major tourist attraction in Marathwada region of Maharashtra.
69. (D) Satyendranath Tagore was the first Indian to join the Indian Civil Service. He was an author, song composer, linguist and he also made a significant contribution towards the emancipation of women in Indian society during the British Raj.
70. (B) Kublai Khan was the fifth Khagan (Great Khan) of the Mongol Empire, reigning from 1260 to 1294. Although it was only nominally due to the division of the empire. He also founded the Yuan dynasty in China as a conquest dynasty in 1271, and ruled as the first Yuan emperor until his death in 1294. The capital city 'Daydo' was established by him in Beijing. By 1279, the Yuan forces had overcome the last resistance of the Southern Song dynasty, and Kublai became the first non-native Emperor to conquer all of China.
71. (C) The cerebral hemispheres (the cerebrum) form the largest part of the human brain and are situated above other brain structures. They are covered with a cortical layer (the cerebral cortex) which has a convoluted topography.
72. (C) Hansen's disease (also known as leprosy) is a long-lasting infection caused by bacteria. The disease was once feared as a highly contagious and devastating disease. Now, however, the disease is very rare and easily treated. Early diagnosis and treatment usually prevent disability related to the disease.
74. (C) The Bardoli Satyagraha of 1928, in the state of Gujarat, India during the period of the British Raj, was a major episode of civil disobedience and revolt in the Indian Independence Movement. Sardar Vallabh Bhai Patel played an important role and was the leader in Bardoli Satyagraha.
75. (A) Nepal is going to host 2018 Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) summit.

76. (C) After recent cabinet's reshuffling Union Minister of Youth Affairs and Sports, Rajyavardhan Singh Rathore took the independent charge of the Ministry of Information and Broadcasting.
77. (D) The National Capital Region (NCR) is the designation for the conurbation of metropolitan area in India. It encompasses the entire National Capital Territory of Delhi, including New Delhi and urban areas surrounding it in neighboring states of Haryana, Uttar Pradesh and Rajasthan.
78. (B) The rights and privileges for the betterment of women are: right to equality in law [Article 14], right to social equality [Article 15], right to social equality in employment [Article 16] right to adequate means of livelihood [Article 39 (a)], right to equal pay for equal work [Article 39 (d)], right that the health and strength of workers both men and women are not abused [Article 39 (e)], right to just and humane conditions of work and **maternity relief [Article 42]**, and right to improvement in employment opportunities and conditions of the working women [Article 46].
80. (A) Morarji Desai, the author of "A Minister and his Responsibilities" was an Indian independence activist and the Prime Minister of India from 1977 to 1979. He was also the first Prime Minister to head India's first non-Congress Government.
81. (B) Sharana Basaveshwara Temple is a shrine at Kalburgi (Gulbarga), an ancient town in the north-eastern part of Karnataka. The temple is dedicated to an eminent Hindu religious teacher and philosopher, Shri Sharana Basaveshwara.
82. (D) World Malaria Day (WMD) is an international observance commemorated every year on 25 April and recognizes global efforts to control malaria. Globally, 3.3 billion people in 106 countries are at risk of malaria.
83. (D) In keeping with the RM Lodha panel's proposals to the Supreme Court on the restructuring of the Board of Control for Cricket in India, the BCCI appointed media veteran Rahul Johri as its first Chief Executive Officer. In January this year, a panel headed by former Chief Justice of India RM Lodha, suggested that the BCCI must be run professionally under a CEO. The panel recommended a cooling off period between successive terms for top officials and suggested that the ministers and government servants cannot occupy BCCI posts.
84. (C) US retail giant Walmart will buy 77% controlling stake in India's largest e-commerce company 'Flipkart' for USD 16 billion. It will be the country's largest acquisition and the world's biggest purchase of an e-commerce company. American multinational retail corporation 'Walmart' was founded by Sam Walton in 1962 and incorporated on October 31, 1969.
86. (D) Anita Nair is the author of the novel "Alphabet Soup for Lovers". Some of her other novels include "The Better Man, Ladies Coupe, Mistress, Lessons in Forgetting, Cut Like Wound and Idris". She has also published a collection of poems titled Malabar Mind, a collection of essays titled Good night & God Bless and also five books for children. She has written two plays and the screenplay for the movie adaptation of her novel Lessons in Forgetting, which was part of the Indian Panorama at IFFI 2012 and won a National Film Award in 2013.
88. (A) A berry fruit is produced from the ovary of a single flower in which the outer layer of the ovary wall develops into an edible fleshy portion (botanically the pericarp). The definition includes many fruits that are commonly known as berries, such as grapes, tomatoes, cucumbers, eggplants (aubergines) and bananas.
90. (D) Nephridia of earthworm - excretory organs
Nematoblasts of hydra - offensive organs
Tracheae of insects - respiratory organs
Flame cells of planaria - excretory organs
Gills of prawn - respiratory organs
91. (D) The coefficient of friction (denoted by μ) does not have any unit as it is dimensionless.
92. (C) The Comptroller and Auditor-General shall hold office for a term of six years from the date on which he assumes such office, provided that where he attains the age of sixty-five years before the expiry of the said term of six years, he shall vacate such office on the date on which he attains.
93. (B) Venus is sometimes called Earth's twin because Venus and Earth are of almost the

same size, have about the same mass (they weigh about the same), and have a very similar composition (are made of the same material). They are also neighbouring planets.

94. (B) The World Health Organization is a specialized agency of the United Nations that is concerned with international public health. It was established on 7th April 1948, headquartered in Geneva, Switzerland. The WHO is a member of the United Nations Development Group. Its predecessor, the Health Organization, was an agency of the League of Nations.

96. (D) The Kerala State Electricity Board has signed a Memorandum of Understanding with the National Thermal Power Corporation (NTPC) for increasing solar power generation in the state.

97. (A) Many children in our country suffer from malnutrition. Protein deficiency disease known as Kwashiorkor. This can be prevented by giving food rich in protein, e.g. milk, butter, meat and egg.

100. (B) Vikram Sarabhai Space Centre is located in Thiruvananthapuram, in Kerala. The centre had its beginnings as the Thumba Equatorial Rocket Launching Station (TERLS) in 1962. It was renamed in honour of Dr. Vikram Sarabhai, often regarded as the father of the Indian space programme.

101. (A) The candidate at second place got
 $= (100 - (55 + 5))$
 $= 40\%$ votes
 Difference between winner and second candidate at second place
 $= (55 - 40) = 15\%$
 ATQ,
 $15\% \rightarrow 9000$

$$100\% \rightarrow \frac{100}{15} \times 9000 = 60,000$$

102. (B) Let no. of men be x .
 According to the given data, we have

$$\frac{46575}{48 \times 45} \times 2 = \frac{17250}{16 \times x}$$

[As daily wages of man is double of that of woman]

$$\Rightarrow x = \frac{17250 \times 48 \times 45}{46575 \times 2 \times 16} = 25 \text{ men}$$

103. (C) Let total salary = 1300

Expenditure = 800
 saving = 500

$$\text{Expenditure on food} = \frac{20}{100} \times 800 = ₹ 160$$

$$\text{expenditure on clothes} = \frac{40}{100} \times 800 = ₹ 320$$

$$\text{Money deposited in bank} = \frac{60}{100} \times 500 = ₹ 300$$

$$\therefore \text{Required percentage} = \frac{\text{Money spent on clothes}}{\text{Amount deposited in bank}} \times 100$$

$$= \frac{320}{300} \times 100 = \frac{320}{3} = 106\frac{2}{3}\%$$

104. (A) The given expression

$$= \frac{\frac{1}{3} \times 3 \times \frac{1}{3}}{\frac{1}{3} \div \left(\frac{1}{3} \times \frac{1}{3}\right)} - \frac{1}{9}$$

$$= \frac{\frac{1}{3}}{\frac{1}{3} \div \frac{1}{9}} - \frac{1}{9} = \frac{\frac{1}{3}}{\frac{1}{3} \times 9} - \frac{1}{9}$$

$$= \frac{1}{3} - \frac{1}{9} = \frac{1}{9} - \frac{1}{9} = 0$$

105. (A) C.P of shopkeeper = ₹ $\frac{20}{25}$

$$\text{S.P of shopkeeper} = ₹ \frac{25}{20}$$

$$\therefore \text{Profit \%} = \frac{\left(\frac{25}{20} - \frac{20}{25}\right)}{\frac{20}{25}} \times 100$$

$$= \frac{125 - 80}{100} \times 100 \times \frac{25}{20}$$

$$= \frac{45}{100} \times 100 \times \frac{25}{20} = 56\frac{1}{4}\%$$

106. (A) Let the speed of stream be x km/hr
 ATQ,

$$\frac{72}{9+x} + \frac{72}{9-x} = 18$$

On solving, $x = 3$ km/hr

107. (C) Cost price of D

$$= 4000 \times \frac{90}{100} \times \frac{110}{100} \times \frac{120}{100} = ₹ 4752$$

∴ Required difference
= 4752 - 4000 = ₹ 752

108. (C) Let the amount invested at the rate of 6% = x
ATQ,

$$(10000 - x) \times \frac{5}{100} - \frac{x \times 6}{100} = 76.50$$

$$\Rightarrow 500 - \frac{5x}{100} - \frac{6x}{100} = 76.50$$

$$\Rightarrow \frac{11x}{100} = 423.50$$

$$x = ₹ 3850$$

Hence the amount invested at 6% = ₹ 3850

109. (B) We have the formula as-

$$\frac{(2n - 4) \times 90}{n} = \frac{(2 \times 8 - 4) \times 90}{8}$$

$$= \frac{1080}{8} = 135^\circ$$

110. (A) Area of circle (A) = πr^2

$$r = \sqrt{\frac{A}{\pi}}$$

ATQ,

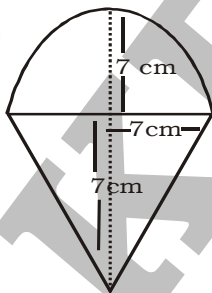
$$3 \times \text{side of triangle} = 2\pi \times \sqrt{\frac{A}{\pi}}$$

$$\text{Side of triangle} = \frac{2\sqrt{\pi A}}{3}$$

$$\text{Area of triangle} = \frac{\sqrt{3}}{4} \times \left(\frac{2\sqrt{\pi A}}{3}\right)^2$$

$$= \frac{\pi\sqrt{3}A}{9} \text{ cm}^2$$

111. (A)



Height of hemispherical part
= 7 cm = radius of hemispherical part
ATQ,

Radius of hemispherical part = height of the

cone
= 7 cm

∴ Volume of ice cream = Volume of cone
+ hemispherical part

$$= \frac{1}{3} \pi r^2 h + \frac{2}{3} \pi r^3$$

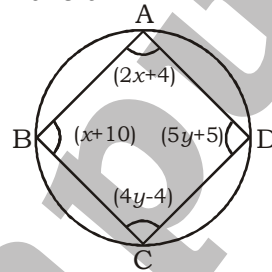
$$= \frac{1}{3} \pi r^2 (h + 2r)$$

$$= \frac{1}{3} \times \frac{22}{7} \times 7 \times 7 (7 + 2 \times 7)$$

$$= \frac{22 \times 7}{3} \times 21 = 22 \times 7 \times 7$$

$$= 1078 \text{ cm}^3$$

112. (D)



$$\angle B + \angle D = 180^\circ$$

$$\angle A + \angle C = 180^\circ \text{ and}$$

$$\Rightarrow x + 10 + 5y + 5 = 180^\circ$$

$$\Rightarrow x + 5y = 165 \quad \dots(i)$$

$$2x + 4 + 4y - 4 = 180^\circ$$

$$\Rightarrow x + 2y = 90^\circ \quad \dots(ii)$$

On solving (i) and (ii),

$$x = 40^\circ \text{ and } y = 25^\circ$$

$$\text{So, } x + y = 40^\circ + 25^\circ = 65^\circ$$

113. (B) A's distance : B's distance : C's distance
1000 : (1000 - 50) : (1000 - 69)

$$= 1000 : 950 : 931$$

i.e. B's distance : C's distance

$$= 950 : 931$$

$$19 \text{ m}$$

i.e. in a race of 950 m, B can allow C a start of 19 m

∴ in a race of 1000 m, B can allow C a start

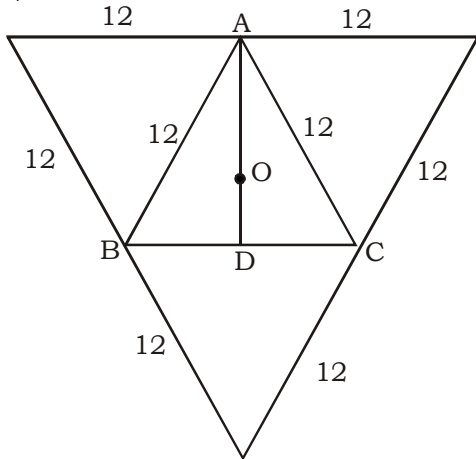
$$\text{of } \frac{19}{950} \times 1000 = 20 \text{ m}$$

114. (C) $\frac{(4x^3 - x)}{(2x+1)(6x-3)}$

$$= \frac{x(4x^2 - 1)}{(2x+1) \times 3(2x-1)} = \frac{x \propto (2x-1)(2x+1)}{3 \propto (2x+1)(2x-1)}$$

$$= \frac{x}{3} = \frac{9999}{3} = 3333$$

115. (B)



Area of equilateral triangle

$$= \frac{\sqrt{3}}{4} a^2 = \frac{\sqrt{3}}{4} \times (12)^2 = \frac{144\sqrt{3}}{4}$$

Now, the area of a regular tetrahedron

$$= 4 \times \frac{144}{4} \times \sqrt{3} = 144\sqrt{3} \text{ cm}^2$$

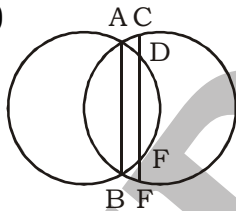
116. (C) $x + \frac{1}{2x} = 2$

or $2x + 2 \times \frac{1}{2x} = 2 \times 2$

$$\Rightarrow 2x + \frac{1}{x} = 4$$

$$\begin{aligned} \Rightarrow 8x^3 + \frac{1}{x^3} &= 4^3 - 3 \times 2x \times \frac{1}{x} \times 4 \\ &= 64 - 24 \\ &= 40 \end{aligned}$$

117. (C)



CD = EF = 4.5 Cm

118. (C) Minimum value of $4 \sec^2 \theta + 9 \operatorname{cosec}^2 \theta$

$$\begin{aligned} &= (\sqrt{4} + \sqrt{9})^2 \\ &= (5)^2 \\ &= 25 \end{aligned}$$

119. (A) $2x + 3y = 29$ and $y = x + 3$

Now, $2x + 3y = 29$

$\Rightarrow 2x + 3(x + 3) = 29$ [Put the value of y]

$\Rightarrow 2x + 3x + 9 = 29$

$\Rightarrow 5x = 20$

$\Rightarrow x = 4$

120. (C) ATQ,

$$A : B : C$$

$$\text{Days} \rightarrow x + 2 : x + 8 : x$$

Now from question condition,

$$\frac{1}{x+2} + \frac{1}{x+8} = \frac{1}{x}$$

after solving $x = 4$

Time taken by B to complete the work

$$= (4 + 8)$$

$$= 12 \text{ days}$$

121. (B) Here, 280 is a multiple of 35.

\therefore Required remainder

= Remainder obtained on dividing 115 by

$$35 = 10$$

122. (B) Average speed = $\frac{\text{Total distance}}{\text{Total time}}$

$$= \frac{24 + 24 + 24}{\frac{24}{6} + \frac{24}{8} + \frac{24}{12}} = \frac{72}{4 + 3 + 2} = 8 \text{ km/hr}$$

123. (A) Let C.P of article = 100 unit

\therefore Total profit

$$= 100 \times \frac{4}{5} \times \frac{15}{100} - 100 \times \frac{1}{5} \times \frac{10}{100}$$

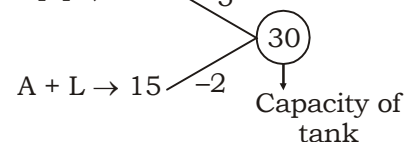
$$= 12 - 2 = 10 \text{ unit}$$

Now ATQ,

$$10 \text{ unit} \rightarrow ₹ 45$$

$$\therefore 100 \text{ unit} \rightarrow \frac{45}{10} \times 100 = ₹ 450$$

124. (A) L(leak pipe) $\rightarrow 6$ $\begin{matrix} -5 \\ -2 \end{matrix}$



Efficiency of filling pipe = 3 units/hour

$$\text{Required time to fill the tank} = \frac{30}{3}$$

$$= 10 \text{ hours}$$

ATQ,

tap (A) fill at the rate 10 litres per hour

then capacity of tank = $10 \times 10 = 100$ litres

125. (A) $\cos A + \sin A = \sqrt{2} \cos A$

$$\sin A = (\sqrt{2} - 1) \cos A$$

$$\frac{\sin A}{\sqrt{2} - 1} = \cos A$$

$$\frac{\sin A}{\sqrt{2} - 1} \times \frac{\sqrt{2} + 1}{\sqrt{2} + 1} = \cos A$$

$$\sin A (\sqrt{2} + 1) = \cos A$$

Now, $\cos A - \sin A$

$$= \sin A (\sqrt{2} + 1) - \sin A$$

$$= \sqrt{2} \sin A$$

126. (D) Sumit's present age = $2x$ years
Prakash's present age = $3x$ years

$$\therefore 3x - 2x = 6$$

$$x = 6$$

$$\therefore \text{Required ratio}$$

$$= (2 \times 6 + 6) : (3 \times 6 + 6)$$

$$= 18 : 24 = 3 : 4$$

127. (C) Let the sum be P .
As the interest is compounded half-yearly.
 $\therefore R = 2\%$, $T = 2$ half years

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

$$\Rightarrow 7803 = P \left(1 + \frac{2}{100} \right)^2$$

$$\Rightarrow 7803 = P \left(1 + \frac{1}{50} \right)^2$$

$$\Rightarrow 7803 = P \times \frac{51}{50} \times \frac{51}{50}$$

$$\Rightarrow P = \frac{7803 \times 50 \times 50}{51 \times 51} = ₹ 7500$$

128. (D) $\left(\frac{1+x}{x} \right) \left(\frac{x+2}{x+1} \right) \left(\frac{x+3}{x+2} \right) \left(\frac{x+4}{x+3} \right) = \frac{x+4}{x}$

129. (C) $M + T + W + TH = 4 \times 37 = 148^\circ\text{C}$... (i)

$TH + F + S + S = 4 \times 41 = 164^\circ\text{C}$... (ii)

$M + T + \dots + S + S = 7 \times 39 = 273^\circ\text{C}$... (iii)

\therefore The temperature of the fourth day
 $= 148 + 164 - 273 = 39^\circ\text{C}$

130. (A) Interest = ₹ $(81 - 72) = ₹ 9$
Let the time be t years

$$\text{Then, } 9 = \frac{72 \times 25 \times t}{4 \times 100}$$

$$\Rightarrow t = \frac{9 \times 400}{72 \times 25} = 2 \text{ years}$$

131. (C) By the method of Alligation,

Table 20	Chair 30
-------------	-------------

(23)

$$30 - 23 = 7 \quad ; \quad 23 - 20 = 3$$

$$= 7 : 3$$

$$\therefore \text{Cost price of table} = \frac{2000}{7+3} \times 7$$

$$= \frac{2000}{10} \times 7 = ₹ 1400$$

132. (B) Per hour wages = $\frac{2400}{60} = ₹ 40$

Per hour wages after increase

$$= 40 \times \frac{140}{100} = ₹ 56$$

Work hours after reduction

$$= 60 \times \frac{250}{3 \times 100} = 50 \text{ hrs.}$$

$$\text{New weekly wages} = 56 \times 50 = ₹ 2800$$

$$\text{increased in wages} = 2800 - 2400 = ₹ 400$$

$$\therefore \% \text{ change} = \frac{400}{2400} \times 100 = 16\frac{2}{3}\%$$

133. (D) Length of the floor
 $= 15 \text{ m } 17 \text{ cm} = 1517 \text{ cm}$

Breadth of the floor

$$= 9 \text{ m } 2 \text{ cm} = 902 \text{ cm}$$

Area of the floor

$$= 1517 \times 902 \text{ cm}^2$$

The number of square tiles will be least,
when the size of each tile is maximum.

$$\therefore \text{Size of each tile} = \text{HCF of } 1517 \text{ and } 902 = 41$$

\therefore Required number of tiles

$$= \frac{1517 \times 902}{41 \times 41} = 814$$

134. (C) Total runs = $20 \times 7.2 = 144$

Total runs in 15 overs

$$= 15 \times 6 = 90$$

Runs to be scored in the next 5 overs

$$= 144 - 90 = 54$$

\therefore Now, required run-rate to win the match

$$= \frac{54}{5} = 10.8$$

135. (A) Let the CP of article be x and its marked price be y .

ATQ,

$$90\% \text{ of } y = 115\% \text{ of } x$$

$$\Rightarrow \frac{y \times 90}{100} = \frac{x \times 115}{100}$$

$$\Rightarrow \frac{x}{y} = \frac{90}{115} = \frac{18}{23} = 18 : 23$$

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

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

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

$$\Rightarrow x = 8 \text{ cm}$$

137. (D) $H = 60 \text{ cm}$

radius = 32 cm

Area of the curved surface = $\pi r l$

$$L = \sqrt{R^2 + H^2} = \sqrt{(32)^2 + (60)^2}$$

$$= \sqrt{1024 + 3600} = \sqrt{4624} = 68 \text{ cm}$$

Area of curved surface = $\pi r l$

$$= \frac{22}{7} \times 32 \times 68$$

$$\begin{aligned} \text{Total cost of painting} &= 35 \times \frac{22}{7} \times 32 \times 68 \times \frac{1}{10000} \\ &= ₹ 23.94 \text{ approximate} \end{aligned}$$

138. (B) $x = a \cos \theta, y = b \sin \theta$

$$\therefore b^2 x^2 + a^2 y^2 = b^2 a^2 \cos^2 \theta + a^2 b^2 \sin^2 \theta$$

$$= a^2 b^2 (\cos^2 \theta + \sin^2 \theta)$$

$$= a^2 b^2 \times 1 = a^2 b^2$$

139. (A) $\sin \theta = \frac{2mn}{m^2 + n^2}$

$$= \frac{\sin \theta \times \frac{1}{\tan \theta}}{\cos \theta} = \frac{\sin \theta \times \frac{1}{\sin \theta} \times \cos \theta}{\cos \theta} = 1$$

140. (A) $\frac{a+b}{\sqrt{ab}} = \frac{4}{1}$

$$\Rightarrow \frac{a+b}{2\sqrt{ab}} = \frac{2}{1}$$

Applying Componendo and Dividendo

$$\Rightarrow \frac{a+b+2\sqrt{ab}}{a+b-2\sqrt{ab}} = \frac{2+1}{2-1}$$

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

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

$$\Rightarrow \sqrt{a} + \sqrt{b} = \sqrt{3} \times \sqrt{a} - \sqrt{3} \times \sqrt{b}$$

$$\Rightarrow (\sqrt{3} + 1) \sqrt{b} = (\sqrt{3} - 1) \sqrt{a}$$

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

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

$$\Rightarrow \frac{a}{b} = \frac{4 + 2\sqrt{3}}{4 - 2\sqrt{3}} = \frac{2 + \sqrt{3}}{2 - \sqrt{3}}$$

$$= (2 + \sqrt{3}) : (2 - \sqrt{3})$$

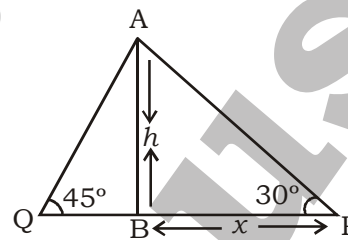
141. (D) Distance covered = $66 \times \frac{5}{2}$

$$2\pi r = 165 \text{ metre}$$

$$r = \frac{165 \times 7}{2 \times 22}$$

$$= 26.25 \text{ metres}$$

142. (A)



Let the height of the tree be h and BP be x m.

$$\tan 45^\circ = \frac{h}{QB}$$

$$1 = \frac{h}{QB}$$

$$100 - x = h$$

...(i)

$$\tan 30^\circ = \frac{h}{x}$$

$$\frac{1}{\sqrt{3}} = \frac{h}{x}$$

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

...(ii)

From (i) and (ii), we get

$$100 - \sqrt{3} h = h$$

$$h(\sqrt{3} + 1) = 100$$

$$h = \frac{100}{\sqrt{3} + 1} \times \frac{\sqrt{3} - 1}{\sqrt{3} - 1} = \frac{100(\sqrt{3} - 1)}{2}$$

$$\therefore h = 50(\sqrt{3} - 1) \text{ m}$$

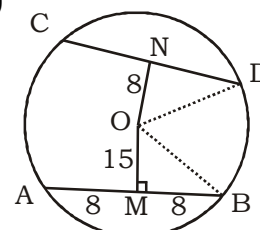
143. (A) Remaining sum = 42050

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

$$\begin{array}{l} A : B \\ 441 : 400 \rightarrow 840 \\ \quad \quad \quad \downarrow \times 50 \\ \quad \quad \quad 42050 \end{array}$$

$$\therefore \text{Share of B} = 400 \times 50 = ₹ 20,000$$

144. (C)



$$\begin{aligned} OB &= \sqrt{15^2 + 8^2} \\ &= \sqrt{225 + 64} \\ &= \sqrt{289} \\ &= 17 \text{ cm} \end{aligned}$$

∴ OB & OD are radius of circle.

$$\begin{aligned} DN &= \sqrt{17^2 - 8^2} \\ &= \sqrt{289 - 64} \\ &= \sqrt{225} \\ &= 15 \text{ cm} \end{aligned}$$

$$\begin{aligned} CD &= CN + DN \\ &= 15 + 15 \\ &= 30 \text{ cm} \end{aligned}$$

145. (B)
$$\frac{\cos^2 60^\circ + 4\sec^2 30^\circ - \tan^2 45^\circ}{\sin^2 30^\circ + \cos^2 30^\circ}$$

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

$$= \frac{1}{4} + 4 \times \frac{4}{3} - 1$$

$$= \frac{1}{4} + \frac{16}{3} - 1$$

$$= \frac{3 + 64 - 12}{12}$$

$$= \frac{55}{12}$$

146. (A) Required expenditure

$$= 25000 \times \frac{(20 + 30)}{100} = ₹ 12,500$$

147. (C) Required total expenditure

$$= \frac{15000}{(10 + 20)} \times 100 = ₹ 50,000$$

148. (D) From option (D),

$$\frac{360^\circ}{100} \times (30 - 15)$$

$$= \frac{360^\circ}{100} \times 15 = 54^\circ$$

∴ Option D is correct.

149. (B) Required percentage

$$= \frac{(15 - 10)}{15} \times 100$$

$$= \frac{5}{15} \times 100 = 33.33\%$$

150. (C) From option (C),

$$\frac{360^\circ}{100} \times (20 + 5)$$

$$= \frac{360^\circ}{100} \times 25 = 90^\circ$$

∴ Option C is correct.

151. (B) Add 'the' before poor, as 'the poor' represents class of poor people.

152. (B) Remove 'had', when two actions take place subsequently, the first action which happened earlier will be in past perfect tense and the 2nd action will be simple past tense.

153. (B) Nouns such as 'information' have no plural form, but adding a few words before those certain uncountable nouns make them countable, thus plural. Thus, it should be 'prakash gave me two pieces of information'.

154. (B) Words such as 'everything' and 'everyone' i.e both living and non-living will take a relative pronoun 'that'. Thus, replace 'who' by 'that'.

155. (A) 'When you have found out' is correct. If the 2nd action takes place after the 1st action has already finished, the 1st action will be in present perfect tense.

175. (C) Since, this is a case of an unfulfilled wish, it will take 'had' as a main verb.

179. (B) 'Will have completed' is a better option though not given here.

181. (A) 'claims' are always 'tall', not 'bigger or high'.

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Admonish	to speak to (someone) in a way that expresses disapproval or criticism	भर्त्सना करना
Bison	a large wild animal of the cow family that is covered with hair	जंगली सांड
Cultivated	having a high level of education and showing good manners	सभ्य
Dialects	a form of a language that is spoken in a particular area and that uses some of its own words, grammar, and pronunciations	प्रांतीय भाषा, बोली
Digression	a temporary departure from the main subject in speech or writing.	विचलन
Discrepancy	a difference between two or more things that should be the same	अंतर, विसंगति
Dud	a thing that is useless	व्यर्थ, बेकार
Figurative	not literal; using figures of speech	प्रतीकात्मक
Fleeting	lasting only a short time	अस्थायी
Heretical	against the principles of a particular religion	विधर्मी
Hood wink	to trick somebody	छलना
Imprecation	an offensive word or phrase or a spoken curse	फटकार, लानत
Infructuous	fruitless	निष्फल
Jargons	words or expressions that are used by a particular profession or group of people, and are difficult for others to understand	वर्ग विशेष की शब्दावली
Judiciary	the judges of a country or a state, collectively	न्यायपालिका, न्यायतंत्र
Jurisprudence	the scientific study of law	न्यायशास्त्र
Juristic	of or relating to law or to legal rights and obligations	न्याय-संबंधी
Nomenclature	a system of naming things, especially in a branch of science	नामपद्धति
Obligation	an act or course of action to which a person is morally or legally bound.	दायित्व
Outnumbering	to be greater in number than somebody/something	संख्या में अधिक होना
Outskirts	a part furthest from the centre	बाह्य क्षेत्र
Paranoid	suffering from a mental illness in which someone wrongly believe that other people are trying to harm him	पागल, भ्रमित व्यक्ति
Paraphrase	to express what somebody has said or written using different words, especially in order to make it easier to understand	सविस्तार
Poignant	evoking a keen sense of sadness or regret	हृदयविदारक, मार्मिक
Precision	the quality of being exact, accurate	शुद्धता, सुस्पष्टता
Prerogative	a right or advantage belonging to a particular person or group because of their importance or social position	विशेषाधिकार
Presage	a warning or sign that something unpleasant will happen	पूर्वसूचना
Snotty	having or showing a superior or conceited attitude.	मगरूर, घमंडी
Steep	having a sharp inclination	तीव्र ढलानवाला
Vindicate	to prove that somebody accused of doing something wrong or illegal is not guilty	निर्दोष ठहराना

SSC MOCK TEST - 15 (ANSWER KEY)

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

For all general competitive exams

