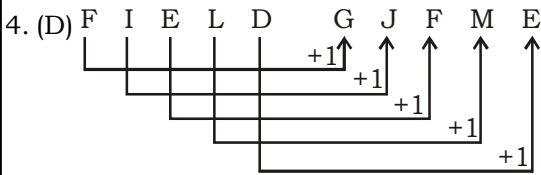
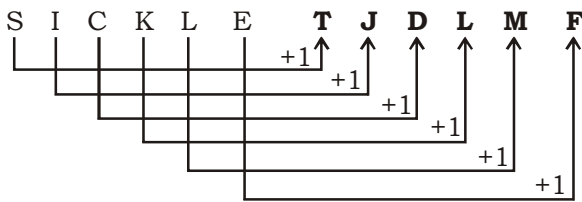


CPO MOCK TEST – 23 (SOLUTION)

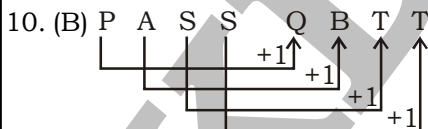
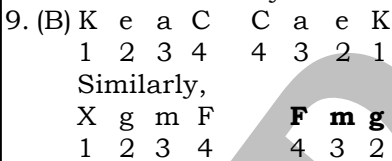
1. (A) Alphabetic positions of K and T are 11 and 20 respectively. Similarly positions of J and R are 10 and 18 respectively.
2. (C) As 'indolence' and 'Work' are opposite to each other, in the same way 'Taciturn' and 'Talkative' are opposite to each other.
3. (A) As the cry of 'Dog' is called 'Bark', in the same way the cry of 'Goat' is called 'Bleat'.



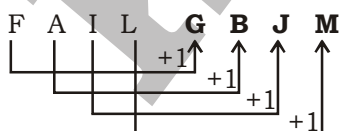
Similarly,



5. (A) 'Jade' is a 'Green' coloured precious stone, in the same way 'Garnet' is a 'Red' coloured precious stone.
6. (C) As 'Knowledge' is achieved by 'Reading', in the same way 'Experience' is achieved by 'Work'.
7. (A) As, $61 = (4)^3 - 3$ $121 = (5)^3 - 4$
and $337 = (7)^3 - 6$
Therefore, $? = (6)^3 - 5 = 211$
8. (D) As the dwelling place of 'Rabbit' is 'Burrow' in the same way the dwelling place of 'Lunatic' is 'Asylum'.



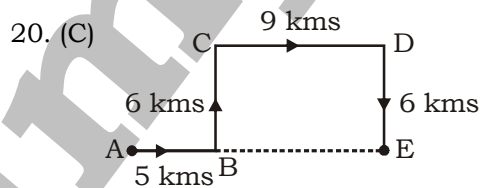
Similarly,



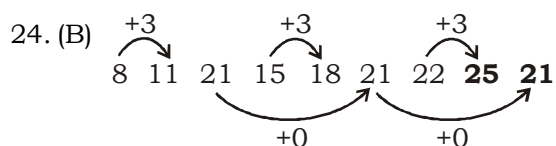
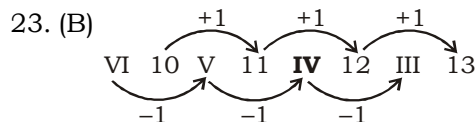
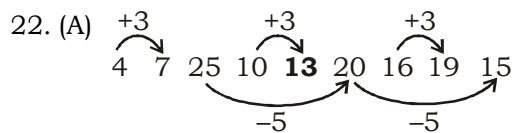
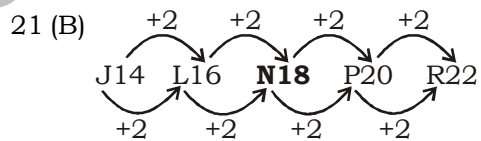
11. (A) Loaf, Sourdough, and Pumpnickel are types of bread. A **Rye** is not a type of bread.
12. (B) The Guitar, Violin and Cello are stringed

instruments whereas the **Flute** is a wind instrument.

13. (A) Freeway, Interstate and Expressway are all high-speed highways whereas a **Street** is for low speed traffic.
14. (C) A Leopard, Cougar and Lion all belong to the Cat family whereas an **Elephant** does not belong to that group.
15. (B) The Couch, Table and Chair are types of furniture whereas the **Rug** is not a furniture.
16. (B) The Mayor, Governor and Senator are elected persons whereas the Lawyer is not an elected person.
17. (D) Except 4218, the sum of the first three digits is equal to the last digit.
18. (C) Except TXPH, there is a vowel in rest of the options.
19. (C) Except (C) the sum of the digits of both the numbers in rest of the options are same.



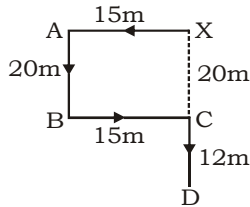
Required distance = AE = AB + BE (\because BE = CD)
 $= 5 + 9$
 $= 14$ kms.



25. (B) Let ₹ x be the fare of city B from city A and ₹ y be the fare of city C from city A.
Then, $2x + 3y = 77$... (i) and
 $3x + 2y = 73$... (ii)

On multiplying (i) by 3 and (ii) by 2 and subtracting, we get
 $5y = 85$ or $y = 17$.
 Putting $y = 17$ in (i), we get; $x = 13$.
 So, $(x, y) = ₹ (13, 17)$

26. (A)



Required distance = $XD = XC + CD$
 $= 20 + 12$
 $= 32$ m in south direction

27. (A) $(15 \times 2 - 3) = 27$, $(31 \times 2 - 6) = 56$
 and $(45 \times 2 - 9) = 81$

28. (B) $\frac{(18 \times 12)}{3} = 72$ and $\frac{(32 \times 16)}{4} = 128$

Therefore, $\frac{(24 \times 14)}{?} = 112$

$$\Rightarrow \left(\frac{336}{?}\right) = 12$$

$$\Rightarrow ? = \left(\frac{336}{12}\right)$$

$$\Rightarrow ? = 28$$

29. (D) $(2)^3 + (1)^3 + (3)^3 = 36$

and $(0)^3 + (4)^3 + (3)^3 = 91$

Therefore, $(4)^3 + (2)^3 + (1)^3 = 73$.

30. (B) $(7 \times 3) = 21$ and $(9 \times 3) = 27$

and $(4 \times 9) = 36$ and $(2 \times 9) = 18$

Therefore $(9 \times 6) = 54$ and $(4 \times 6) = 24$.

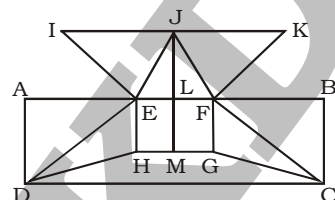
31. (A) Clearly, Conclusion I directly follows from the given statement. Also, it is mentioned that old ideas are replaced by new ones, as thinking changes with the progress in time. So, Conclusion II does not follow.

32. (B) The sitting arrangement is as follows:



Therefore, right of P is X.

33. (B) The figure is given below:



The horizontal lines are IK, AB, HG and DC i.e. 4 in number.

The vertical lines are AD, EH, JM, FG and BC i.e. 5 in number.

The slanting lines are IE, JE, JF, KF, DE, DH, FC and GC i.e. 8 in number.

Thus, there are $4 + 5 + 8 = 17$ straight lines in the given figure.

34. (B) x weeks x days = $(7x + x)$ days = $8x$ days.

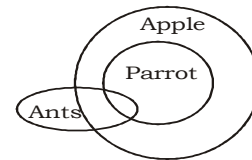
35. (D) Given: D is the brother of B.

From statement 1, we can see that D is son of C (son of D is the grandson of C).

From statement 2, we can see that B is 'Female' (sister of D).

So, we can say that both the statement 1 and 2 are required.

36. (B)



I. False II. True

37. (B)

38. (D) Daughter of Abhijit's brother → The niece of Abhijit.

Thus, the granddaughter of the woman is Abhijit's niece. Hence, the woman is the mother of Abhijit.

39. (B) At 5 o'clock, the hands are 25 minutes apart.

To be at right angles and that too between 5 : 30 and 6, the minute hand has to gain $(25 + 15) = 40$ min spaces.

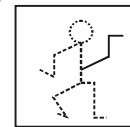
∴ 55 min spaces are gained in 60 min.

∴ 40 min spaces are gained in $\left(\frac{60}{55} \times 40\right)$

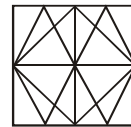
$$\text{min} = 43 \frac{7}{11} \text{ min.}$$

∴ Required time = $43 \frac{7}{11}$ min past 5.

40. (D)



41. (C)

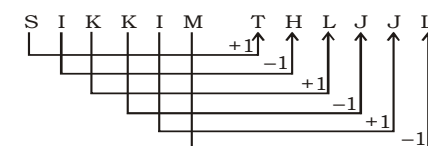


42. (A) Here the common faces with number 3, are in same positions. Hence 6 is opposite to 2 and 5 is opposite to 1. Therefore 4 is opposite to 3.

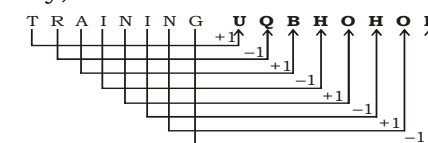
43. (C) N O R M A L

2 4 5 3 6 1

44. (C)



Similarly,



45. (A) In all other figures, there are two small line segments towards the pin and three small line segments towards the arrow.

46. (C)

47. (A) 1, 2, 3 are figures composed of two straight lines.

- 4, 5, 6 are figures composed composed of three straight lines.
and 7, 8, 9 are figures composed of four straight lines.
48. (B) The series is $abb/aaabbb/aaaabbbb/a$.
49. (A) $\frac{\text{Member}}{(3)} \rightarrow \frac{\text{Family}}{(1)} \rightarrow \frac{\text{Locality}}{(4)} \rightarrow \frac{\text{City}}{(2)} \rightarrow \frac{\text{Country}}{(5)}$
50. (B)
51. (B) Rajaraja began his conquests by attacking the confederation between the rulers of the Pandya and Krala kingdoms and of Ceylon. Rajendra Chola I, the son of Rajaraja, invaded the island in 1018 A.D. As a result of the campaign, Rajendra captured the crown of the Sinhala king, his Queen and daughter. The Sinhala king Mahind-V was taken prisoner and transported to the Chola country". The naval supremacy of the Colas continued under the immediate successors of Rajendra. Rajadhiraja, not only defeated and destroyed the Chera fleet at Kandalur but sent out his squadrons on an expedition against Ceylon.
53. (C) India and China have agreed to reduce tariffs on Chinese imports of Indian medicines. Both the countries have reached agreement on the reduction of tariffs on anti-cancer medicines.
China
• Capital: Beijing
• Currency: Yuan, Renminbi
• President: Xi Jinping
54. (B) Natural Calamities are sudden "acts of god," which cannot be anticipated and planned. So budgetary approvals are not needed in this case. A budget is normally a statement of revenue receipts and expenditure. An appropriation bill or running bill is a legislative motion (bill) which authorizes the government to spend money. It is a bill that sets money aside for specific spending.
58. (A) Arya Samaj is a Hindu reform movement founded by Swami Dayananda in Bombay on 7 April, 1875. The membership amounted to 100 persons, including Swami Dayanand. On the 24th of June, 1877, the second major Arya Samaj was established at Lahore.
59. (D) The Fourth Five-Year Plan (1969-1974) set before itself the two principal objectives - growth with stability and progress towards self-reliance. It laid great emphasis on agriculture's growth rate so that a chain reaction can start. The Fifth Five-Year Plan (1974-1979) also focused on self-reliance in agricultural production and defense.
60. (D) Light year is a unit of length used informally to express astronomical distances. It is most often used when expressing distances to stars and other distances on a galactic scale. It is equal to just under 10 trillion kilometres.
61. (D) India and South Korea have signed five MoUs in the field of Science and Technology in New Delhi. Two other MoUs were signed between Council of Scientific and Industrial Research and South Korean National Research Council for Science and Technology and IIT Mumbai and Korea Institute of Science and Technology, to further accelerate future-oriented cooperation.
62. (B) Political rights are those rights by which citizens are given share in the political life of the community including that of the management of government. This generally consist of the following rights:- Right to vote, Right to be elected, Right to public offices, Right to petition, Right to criticize government, Right to residence, Right to public meeting, etc. Right to life is a phrase that describes the belief that a human being has an essential right to live, particularly that a human being has the right not to be killed by another human being.
63. (D) Income Tax (corporate and non-corporate combined) contribute about 56 percent of tax revenue of India. But, income tax apart from agricultural income is shared between the Union and states. Among the given options, Excise duty is the chief and single largest source of revenue income. The Government of India earns maximum from Union Excise Duty.
64. (B) The manufacture of iron ore involves the process of reduction. Important ores of iron are Haematite and Magnetite.
65. (C) The Central Leather Research Institute (CLRI), Chennai was established in 1948. The institute is the World's largest Leather Research Institute. It serves as a constituent laboratory under the Council of Scientific and Industrial Research.
68. (B) Bromine is your answer as it remains liquid in room temperature. It's boiling point is 58.8° C, thus it stays in liquid form.
73. (D) The Prime Minister is the chief channel of communication between the President and the Council of Minister and keeps the former informed about all the decisions of the council. Article 74 of the Constitution lays down that there shall be a Council of Ministers with Prime Minister at the head to aid and advise the President.
74. (C) Under Section 22 of the Reserve Bank of India Act, the Bank has the sole right to issue bank notes of all denominations. The distribution of one rupee notes and coins and small coins all over the country is undertaken by the Reserve Bank as agent of the Government. The system as it exists today is known as the minimum reserve system.

75. (A) Proteins are large biological molecules consisting of one or more chains of amino acids which are essential nutrients for the human body. They are one of the building blocks of body tissue and can also serve as a fuel source. As fuel, proteins contain 4 kcal per gram, just like carbohydrates and unlike liquids, which contain 9 kcal per gram.
78. (A) Asian Development Bank (ADB) has approved 503-Million US Dollar lining project of the Son canal in Shahabad Bhojpur region of Bihar.
Asian Development Bank (ADB)
- Founded: 19 December 1966
 - President: Takehiko Nakao : Japan
 - Headquarters: Manila, Philippines
 - Member Country:
79. (B) K. J. Alphons announced that the Tourism Ministry in partnership with the Federation of Associations in Indian Tourism and Hospitality (FAITH) and with the support of State /UT Governments will organize the 'first ever' India Tourism Mart (ITM) from 16th to 18th September, 2018 at Vigyan Bhawan, New Delhi.
85. (B) The Members of Gram Panchayats, Members of Panchayat Samiti and Zila Parishad are elected directly by the electorates of the respective territorial constituencies through universal adult franchise.
86. (D) Shakuntala Devi was an Indian to beat the computers in mathematical wizardry. She was an Indian writer and mental calculator, popularly known as the "Human Computer". She wrote a number of books, including novels as well as texts about mathematics, puzzles, and astrology. She also wrote what is considered the first study of homosexuality in India.
87. (C) Famous folk artist Dr. Mahendra Bhanawat will be honored with the Kanhaiyalal Sethia Award for his outstanding contribution in the field of literature, culture and art.
88. (B) Majuli is a large river island in the Brahmaputra river in Assam. It is the largest river island in the world. The island is formed by the Brahmaputra River in the south and the Kherlutia Xuti, a branch of the Brahmaputra, joined by the Subansiri River in the north. Majuli island is accessible by ferries from the City of Jorhat. The island is about 200 kilometres east from the state's largest city – Guwahati.
89. (A) The Central Bank of a country regulates money supply with the help of open market operations, changing the reserve requirements (**CRR**) and changing discount rate (**bank rate**). Besides, banks are required to maintain liquid assets in the form of gold, cash and approved securities (**margin requirements**). The Reserve Bank of India has recently been resorting more to open market operations.
90. (C) A flower has calyx, corolla, androecium and gynoecium. Calyx and corolla are accessory organs, while androecium and gynoecium are reproductive organs. Photosynthetic activity is found in the calyx, pericarp and locular parenchyma. It suggests that all of these tissues have significant roles in CO₂ scavenging and the provision of carbon assimilates.
92. (D) Populations density is a measurement of population per unit area. For humans, population density is the number of people per unit of area, usually quoted per square kilometer.
93. (A) Union Cabinet gave its approval to rename the Agartala Airport in Tripura as 'Maharaja Bir Bikram Manikya Kishore Airport, Agartala.
94. (B) The Internet protocol suite is the set of communications protocols used for the Internet and similar networks, and generally the most popular protocol stack for wide area networks. It is commonly known as TCP/IP because of its most important protocols : Transmission Control Protocol (TCP) and Internet Protocol (IP), which were the first networking protocols defined in this standard.
95. (C) Shashi Bala Singh has taken charge as the Director of National Institute of Pharmaceutical Education and Research (NIPER), Hyderabad.
97. (B) The Dead Sea is a salt lake bordering Jordan to the east and Israel and the West Bank to the west. With 33.7% salinity, it is also one of the world's saltiest bodies of water. It is 8.6 times saltier than the ocean. This salinity makes for a harsh environment in which animals cannot flourish, hence it is named as dead sea.
98. (A) Light scattering in colloidal solutions or particles in suspension in transparent medium is known as Tyndall Effect. It is similar to Rayleigh scattering, in that the intensity of the scattered light depends on the fourth power of the frequency, so blue light is scattered much more strongly than red light.

Campus
KD Campus Pvt. Ltd

PLOT NO.2, SSI INDUSTRIAL AREA, G.T. KARNAL ROAD, JAHANGIRPURI, DELHI

99. (A) Trishul is the name of a short range surface-to-air missile developed by India as a part of the Integrated Guided Missile Development Programme. It has a range of 9 km and is fitted with a 5.5 kg warhead.
100. (B) Active transport, this is the only transport method that can move species against their concentration gradient (from low to high concentration). Facilitated diffusion only moves species down their concentration gradient from high to low concentration.
101. (C) Rate = $12\frac{1}{2}\% = \frac{1}{8}$

| | |
|---|--|
| Amount | Instalment |
| $\begin{array}{r} 8 \times 9 \\ + 64 \\ \hline 136 \end{array}$ | $\begin{array}{r} 9 \times 9 \\ \hline 81 \end{array}$ |
| $\begin{array}{r} 136 \\ \downarrow \times 50 \\ \hline \text{₹}6800 \end{array}$ | $\begin{array}{r} 81 \\ \downarrow \times 50 \\ \hline \text{₹}4050 \end{array}$ |

102. (C) Total maximum marks in four subjects = $120 + 140 + 100 + 180 = 540$
- 60% of total maximum marks = $\frac{3}{5} \times 540 = 324$
- Marks obtained in three subjects = $120 \times \frac{2}{5} + 140 \times \frac{11}{20} + 100 \times \frac{9}{20} = 48 + 77 + 45 = 170$
- Marks to be obtained in Maths = $324 - 170 = 154$
103. (C) S.I = $956 - 800 = \text{₹} 156$

$$\therefore \text{Rate} = \frac{\text{S.I} \times 100}{\text{Principal} \times \text{Time}}$$

$$= \frac{156 \times 100}{800 \times 3} = 6.5\% \text{ per annum}$$

\therefore New rate = 10.5%

\therefore S.I = $\frac{\text{Principal} \times \text{Time} \times \text{Rate}}{100}$

$$= \frac{800 \times 3 \times 10.5}{100} = \text{₹} 252$$

Amount = $800 + 252 = \text{₹} 1052$

104. (A) Population of the village = 5500
After increment new population of the village = 6330
- % increment = $\frac{(6330 - 5500)}{5500} \times 100 = \frac{830}{55} = \frac{166}{11}\%$

| | | |
|---|---|---------|
| Male% | : | Female% |
| 11% | | 20% |
| $\left(20 - \frac{166}{11}\right) : \left(\frac{166}{11} - 11\right)$ | | |
| Ratio of Male & Female = 6 : 5 | | |

- According to the question
11 units = 5500
1 unit = 500
Number of females = $500 \times 5 = 2500$
105. (C) Let the total valid votes be 100%
Then second candidate got = $(100 - 52 - 12)\% = 36\%$
According to the question,
 $\Rightarrow 36\% = 28800$
- $\Rightarrow 100\% = 28800 \times \frac{100}{36} = 80,000$
- Hence total valid votes = 80,000
 \Rightarrow Total votes polled = $80,000 + 10,000 = 90,000$
 \Rightarrow Total number of votes = $\frac{10}{9} \times 90,000 = 1,00,000$
106. (B) Total weight of section A = $42 \times 25 = 1050$ kg
Total weight of group B = $28 \times 40 = 1120$ kg
Total weight of whole class = 2170 kg
Average weight of whole class = $\frac{2170}{70} = 31$ kg

107. (C) According to the question

$$n \times \frac{90}{100} \times \frac{80}{100} \times \frac{75}{100} = 270$$

$$n = \frac{270 \times 10 \times 10 \times 100}{9 \times 8 \times 75}$$

$$n = 500 \text{ chocolates}$$

Short trick:-

$$10\% = \frac{1}{10}, 20\% = \frac{1}{5}, 25\% = \frac{1}{4}$$

ATQ,

| Quantity | Remain |
|-------------------------|-------------------------|
| 10 | 9 |
| 5 | 4 |
| 4 | 3 |
| <hr/> | |
| 200 | 108 |
| $\downarrow \times 2.5$ | $\downarrow \times 2.5$ |
| 500 | 270 |

KD
Campus
KD Campus Pvt. Ltd

PLOT NO.2, SSI INDUSTRIAL AREA, G.T. KARNAL ROAD, JAHANGIRPURI, DELHI

On adding, $2T = 40 \Rightarrow T = 20$ hours
put in equation (ii)
 $4S - 80 = 16 \Rightarrow S = 24$ km/h
Distance = $t \times S = 24 \times 20$
= 480 km

117. (A) A : B
Efficiency \rightarrow 2 : 1
according to the question,
Both A and B take 4 days to complete the work
then, Total work = $(2 + 1) \times 4 = 12$ units

Time taken by B = $\frac{12}{1} = 12$ days

118. (D) Total Distance = $240 \times 5 = 1200$ km
then required speed to cover the same

distance in $1\frac{2}{3}$ hours, i.e. $\frac{5}{3}$ hrs.

$$\Rightarrow \frac{1200}{\frac{5}{3}} = \frac{1200 \times 3}{5} = 720 \text{ km/hr.}$$

119. (B) Discount offered by Apurva

$$= 25 + 5 - \frac{25 \times 5}{100} = 28.75\%$$

Discount offered by Vivek

$$= 16 + 12 - \frac{16 \times 12}{100} = 26.08\%$$

Buying from Apurva is more profitable.

120. (B) Height of pole = 100m
Work done by spiderman in 2 minutes = 1m
Time taken by spiderman to climb 96m
i.e., $96 + 4 = 100$ meter
= $96 \times 2 + 1$ min
= 3 hrs 13 min

121. (C) Water : Milk
same $\left(\begin{array}{l} 30 : 170 \rightarrow 200 \\ 1 \times 30 : 7 \times 30 \rightarrow 240 \end{array} \right.$

$$* 87.5\% \rightarrow \frac{7}{8}$$

$$\text{Additional milk required} = (210 - 170)l = 40l.$$

122. (A) Total surface area of tank without top
TSA = $30 \times 20 + 2(12 \times 20) + 2(30 \times 12)$
= 1800 m^2

\therefore area of iron sheet = T.S.A without top
 \Rightarrow Length \times width = 1800

$$\Rightarrow \text{Length} = \frac{1800}{3} = 600 \text{ m}$$

$$\therefore \text{Cost} = 600 \times 10 = ₹ 6000$$

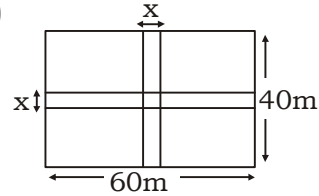
123. (B) $4x - 3y = 13$

Cubing both sides

$$64x^3 - 27y^3 - 3 \times 4x \times 3y(4x - 3y) = (13)^3$$

$$\begin{aligned} &\Rightarrow 64x^3 - 27y^3 - 36(14)(13) = 2197 \\ &= 64x^3 - 27y^3 = 2197 + 6552 \\ &\Rightarrow 64x^3 - 27y^3 = 8749 \end{aligned}$$

124. (A)



Total area of park = $60 \times 40 = 2400 \text{ m}^2$
and area of lawn = 2109 m^2 (given)
area of the cross roads = $2400 - 2109$
= 291 m^2

$$\begin{aligned} &\Rightarrow x(60 + 40 - x) = 291 \\ &\Rightarrow x^2 - 100x + 291 = 0 \\ &\Rightarrow (x - 97)(x - 3) = 0 \\ &\Rightarrow x = 3 \text{ or } 97 \\ &\Rightarrow x = 3 \quad [\because x = 97 \text{ is not possible}] \end{aligned}$$

125. (C) Water Poured by the man = $\frac{4}{3}$ litres/min

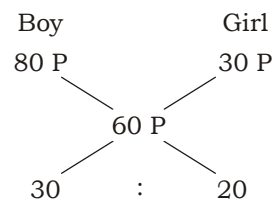
Water Poured by the woman = $\frac{3}{4}$ litres/min

Required time to fill 200 litres of water

$$= \frac{200}{\frac{4}{3} + \frac{3}{4}} = \frac{200 \times 12}{25}$$

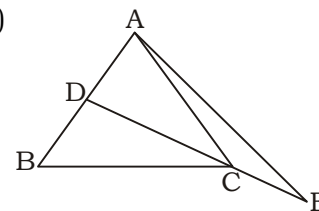
$$= 96 \text{ min} = 1 \text{ hour } 36 \text{ min.}$$

126. (C) Average ₹/student = $\frac{3900}{65} = 60$ paise



$$\text{then no. of girls} = \frac{2}{5} \times 65 = 26$$

127. (D)



ΔABC is equilateral,
 $\Rightarrow \angle BCD = \angle DCA = 30^\circ$ (\because CD bisects $\angle ACB$)
 $\therefore \angle ACE = 180^\circ - 30^\circ = 150^\circ$
AC = CE

$$\therefore \angle CAE = \angle CEA = \frac{30}{2} = 15^\circ$$

128. (A) Larger Radius (R) = 14 + 7 = 21 cm
Smaller Radius (r) = 7 cm
∴ Area of shaded portion

$$= \pi \frac{30^\circ}{360^\circ} (21 \times 21 - 7 \times 7)$$

$$= \frac{22}{7} \times \frac{1}{12} \times 392 = 102.67 \text{ cm}^2$$

129. (D) Ratio of A, B and C

$$\frac{1}{2} : \frac{1}{4} : \frac{5}{16}$$

$$= 8 : 4 : 5 \longrightarrow 17$$

Diff \longrightarrow 4 $\times 4000$
₹ 68000

$\downarrow \times 4000$
₹ 16000

130. (A) $\left(x + \frac{1}{x}\right)^2 = 3$

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

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

$$= 3\sqrt{3} - 3\sqrt{3} = 0$$

$$\Rightarrow x^6 + 1 = 0$$

$$\therefore x^{206} + x^{200} + x^{90} + x^{84} + x^{18} + x^{12} + x^6 + 1$$

$$= x^{200}(x^6 + 1) + x^{84}(x^6 + 1) + x^{12}(x^6 + 1) + (x^6 + 1)$$

$$= 0$$

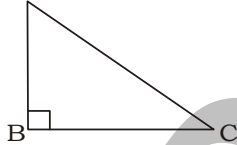
$$[\because x^6 + 1 = 0]$$

131. (B) maximum value of $(2 \sin\theta + 3 \cos\theta)$

$$= \sqrt{a^2 + b^2}$$

$$= \sqrt{4 + 9} = \sqrt{13}$$

132. (C) A



$$AB \times BC = \frac{AC^2}{2}$$

$$= AC^2 = 2AB \times BC$$

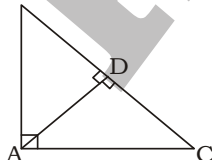
$$= AB^2 + BC^2 = 2AB \times BC$$

$$= (AB - BC)^2 = 0$$

$$\Rightarrow AB = BC$$

$$\therefore \angle BAC = \angle ACB = 45^\circ$$

133. (C) B



In $\triangle ABC$, $AD \perp BC$

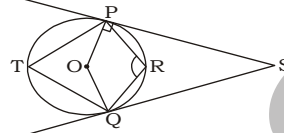
$\triangle BAC \sim \triangle ADC$

∴ The Ratio of area of two similar triangles = Ratio of square of their corresponding sides

$$\text{Hence, } \frac{\text{ar}(\text{BAC})}{\text{ar}(\text{ADC})} = \frac{BC^2}{AC^2} = \frac{64}{36}$$

$$= \frac{16}{9} = 16 : 9$$

134. (D)



$$\angle OPS = \angle OQS = 90^\circ$$

$$\angle PSQ = 20^\circ \text{ (Given)}$$

$$\therefore \angle POQ = 160^\circ$$

$$[\angle PSQ + \angle POQ = 180^\circ]$$

$$\Rightarrow \angle PTQ = 80^\circ$$

PRQT is a cyclic quadrilateral

$$\therefore \angle PRQ = 180^\circ - 80^\circ = 100^\circ$$

135. (D) $a - b = x + y - x + y = 2y$

$$b - c = x - y - x - 2y = -3y$$

$$c - a = x + 2y - x - y = y$$

ATQ,

$$a^2 + b^2 + c^2 - ab - bc - ca$$

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

$$= \frac{1}{2} [(2y)^2 + (-3y)^2 + y^2]$$

$$= \frac{1}{2} \times 14y^2$$

$$= 7y^2$$

136. (A) $\sec^2\theta + \tan^2\theta = 7$

$$\Rightarrow 1 + \tan^2\theta + \tan^2\theta = 7$$

$$= 2\tan^2\theta = 7 - 1 = 6$$

$$\Rightarrow \tan^2\theta = 3$$

$$\Rightarrow \tan\theta = \sqrt{3}$$

$$\therefore \theta = 60^\circ$$

137. (C) $5 \tan\theta = 4 \Rightarrow \tan\theta = \frac{4}{5}$

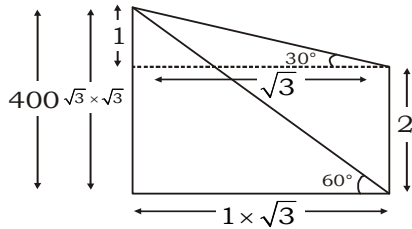
$$\therefore \frac{5 \sin\theta - 3 \cos\theta}{5 \sin\theta + 2 \cos\theta}$$

$$= \frac{5 \cdot \frac{\sin\theta}{\cos\theta} - 3 \cos\theta}{5 \cdot \frac{\sin\theta}{\cos\theta} + 2 \cos\theta}$$

$$\frac{5 \tan - 3}{5 \tan + 2} = \frac{5 \times \frac{4}{5} - 3}{5 \times \frac{4}{5} + 2} = \frac{4 - 3}{4 + 2} = \frac{1}{6}$$

138. (B) In a cyclic quadrilateral opposite angles are supplementary.

139. (C)



$$3 \text{ unit} \rightarrow 400$$

$$1 \text{ unit} \rightarrow \frac{400}{3}$$

$$\therefore \text{The height of the pillar is} = \frac{400}{3} \times 2$$

$$= \frac{800}{3} \text{ m.}$$

140. (A) $\sqrt{x} + \frac{1}{\sqrt{x}} = 3$

$$\therefore x + \frac{1}{x} = 7$$

$$x^2 + \frac{1}{x^2} = 47$$

141. (A) $\sec x + \cos x = 3$
 squaring both sides
 $\sec^2 x + \cos^2 x + 2 \sec x \cdot \cos x = 9$
 $= \sec^2 x + \cos^2 x = 9 - 2 = 7$
 Now,
 $\tan^2 x - \sin^2 x$
 $= \sec^2 x - 1 - (1 - \cos^2 x)$
 $[\because \sec^2 x - \tan^2 x = 1]$
 $= \sec^2 x + \cos^2 x - 2$
 $= 7 - 2 = 5$

142. (B) $\frac{x^2}{by+cz} = \frac{y^2}{cz+ax} = \frac{z^2}{ax+by} = 1$

So, $x^2 = by + cz$; $y^2 = cz + ax$; $z^2 = ax + by$

$$\therefore \frac{a}{a+x} + \frac{b}{b+y} + \frac{c}{c+z}$$

$$= \frac{ax}{ax+x^2} + \frac{by}{by+y^2} + \frac{cz}{cz+z^2}$$

$$= \frac{ax}{ax+by+cz} + \frac{by}{by+cz+ax} + \frac{cz}{cz+ax+by}$$

$$= \frac{ax+by+cz}{ax+by+cz} = 1$$

short trick:-

Let $a = b = c = 1$ and $x = y = z = 2$
 because these value satisfy

$$\frac{x^2}{by+cz} = \frac{y^2}{cz+ax} = \frac{z^2}{ax+by} = 1$$

$$\therefore \frac{a}{a+x} + \frac{b}{b+y} + \frac{c}{c+z} = \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$$

143. (B) $\cos \theta = \frac{15}{17}$

$$\Rightarrow \sec \theta = \frac{1}{\cos \theta} = \frac{17}{15}$$

$$\therefore \cot(90 - \theta) = \tan \theta$$

$$= \sqrt{\sec^2 \theta - 1}$$

$$= \sqrt{\left(\frac{17}{15}\right)^2 - 1} = \sqrt{\frac{289}{225} - 1}$$

$$= \sqrt{\frac{289 - 225}{225}} = \sqrt{\frac{64}{225}}$$

$$= \frac{8}{15}$$

144. (D) For maximum value,

$$a = b = c = d = \frac{1}{4}$$

$$\therefore (1+a)(1+b)(1+c)(1+d) = \left(\frac{5}{4}\right)^4$$

145. (B) $12 \times 12 \times 12 = 1728$
 $= 1728 - 1720 = 8$

\therefore Required number = 8

146. (B) Total grain production of state
 P = 45 + 103 + 27 + 29 = 204 lakh tonnes
 Q = 48 + 86 + 73 + 19 + 15 = 241 lakh tonnes
 R = 59 + 32 + 67 + 14 + 31 = 203 lakh tonnes
 S = 41 + 37 + 59 + 21 + 15 = 173 lakh tonnes
 Obviously, State Q had the highest grain production.

147. (C) Total rice Production = 393 lakh tonnes
 Total wheat Production = 331 lakh tonnes
 \therefore Required Ratio = 393 : 331 = 1.2 : 1

148. (A) In the states Q, R and S Jowar recorded highest production.

149. (D) Required percentage = $\frac{103}{331} \times 100$

$$= 31.11\% \approx 30\%$$

150. (C) Average per hectare yield of rice = 30 tonnes

Total rice production = 393 lakh tonnes

$$\therefore \text{Required area} = \frac{393}{30} = 13.1$$

\approx 13 lakh hectare

MEANINGS IN ALPHABETICAL ORDER

| Word | Meaning in English | Meaning in Hindi |
|----------------|--|---------------------------------------|
| Acquaint | To cause (someone) to know and become familiar with something | अवगत कराना |
| Archaeologist | An anthropologist who studies prehistoric people and their culture | पुरातत्त्ववेत्ता |
| Benediction | A prayer that asks for God's blessing | आशीर्वाद |
| Celibate | Not married and not having sex | ब्रह्मचारी |
| Crank | A person who is often angry or easily annoyed | सनकी |
| Dotage | Being of very old age and often less able to remember or do things | बुढ़ापा |
| Exterminate | To destroy or kill (a group of animals, people, etc.) completely | पूर्णतया संहार करना |
| Fastidious | Giving careful attention to detail; hard to please | अतिसावधान, तुनुकमिजाज |
| Furore | A sudden outburst (as of protest) | गुस्सा |
| Hypothetical | Based primarily on surmise rather than adequate evidence | कल्पना की गई बात |
| Imbecility | The fact of being very stupid | मूर्खता |
| Imposter | A person who makes deceitful pretenses | दोंगी |
| Instantaneous | Happening very quickly, happening in an instant | तत्क्षण |
| Mountebank | A dishonest person who tricks and cheats other people | धोखेबाज, कपटी |
| Ostentatious | Displaying wealth, knowledge, etc., in a way that is meant to attract attention, admiration, or envy | आंडबरपूर्ण, दिखावटी |
| Postulate | To suggest (something, such as an idea or theory) especially in order to start a discussion | चर्चा शुरू करने का प्रस्ताव देना |
| Puerile | Silly or childish especially in a way that shows a lack of seriousness or good judgment | बचकाना |
| Recluse | One who lives in solitude | एकांतवासी |
| Reticent | Temperamentally disinclined to talk | कम बोलने वाला |
| Sacrosanct | Too important and respected to be changed, criticized, etc. | पावन |
| Scintillating | Marked by high spirits or excitement | उत्तेजक, जोशीला |
| Senility | Behaving in a confused or strange way, and unable to remember things | बुढ़ापा एवं इसके कारण दुर्बल याददाश्त |
| Slothfulness | A disinclination to work or exert yourself | आलस्य |
| Superannuation | A monthly payment made to someone who is retired from work | सेवा-निवृत्तिपेंशन |
| Stickler | Someone who insists on something | हठी |
| Tepid | Moderately warm | गुनगुना |
| Unwittingly | In a way not intended or planned | अनजाने में |
| Vanity | Feelings of excessive pride | घमंड |

CPO MOCK TEST - 23 (ANSWER KEY)

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

151. (C) Add 'those of' before 'the hospital'. Here the charges of both the hospitals need to be compared.
152. (B) Add 'themselves' after 'adapt'. Verbs like 'adapt' takes reflexive pronoun if the object is not mentioned after them.
153. (B) No error.
or
In general, this sentence seems to give the

- sense that there is a probability (of getting all the information required). Thus, replace 'will' by 'may'.
154. (B) Since, this sentence is in indirect speech, it should be affirmative not interrogative. Thus, replace 'why did I call' by 'why I called'.
155. (B) Replace 'little' by 'a little'. Here we mean atleast 'some' not equivalent to 'nothing'.

For all general competitive exams

