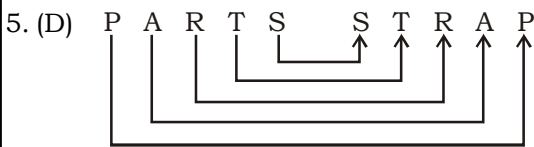
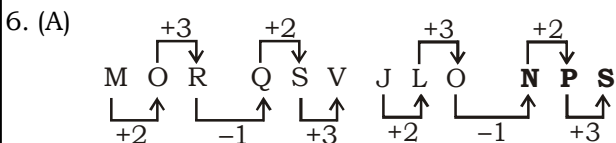
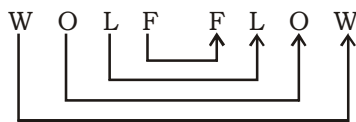


CPO MOCK TEST - 27 (SOLUTION)

1. (B) Elated is the opposite of Despondent. Enlightened is the opposite of Ignorant.
2. (D) A group of lions is called a pride. A group of fish is called a shoal.
3. (C) An oar puts a rowboat into motion. A foot puts a skateboard into motion.
4. (C) As magnet has poles, similarly battery has terminals.



Similarly,



7. (D) As 'Conduction' is the property found in 'Metal', in the same way 'Insulation' is the property found in 'Plastic'.
8. (B) Walk, skip, and run represent a continuum of movement. Skipping is faster than walking, running is faster than skipping.

Below the line, the continuum is about throwing. Pitch is faster than toss; hurl is faster than pitch.

9. (A) $7 + 6 = 13$ & $7 - 6 = 1$, $13 - 1 = 12$
 $9 + 4 = 13$ & $9 - 4 = 5$, $13 - 5 = 8$

10. (D) $12 : 1584 :: 8 : 448$

$$\begin{array}{cc} \downarrow & \downarrow \\ 12^2 \times (12 - 1) & 8^2 \times (8 - 1) \\ = 144 \times 11 & = 64 \times 7 \end{array}$$

11. (B) Dodge, duck, and avoid are all synonyms which means evade. The word Flee means to run away.
12. (B) A branch, leaf, and root are all parts of a tree. The dirt underneath is not a part of the tree.
13. (C) Heading, body, and closing are all parts of a letter.
14. (D) The first three choices are all synonyms.
15. (C) The wing, fin, and rudder are all parts of an airplane.

16. (B) Except (73), all are the sum of squares of continuous natural numbers.

$$(3)^2 + (4)^2 + (5)^2 = 9 + 16 + 25 = 50$$

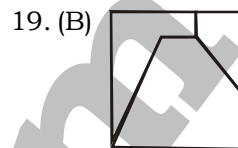
$$(5)^2 + (6)^2 + (7)^2 = 25 + 36 + 49 = 110$$

$$(6)^2 + (7)^2 + (8)^2 = 36 + 49 + 64 = 149$$

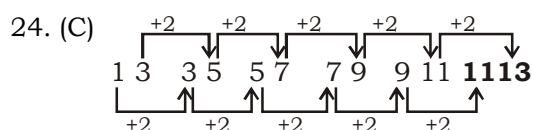
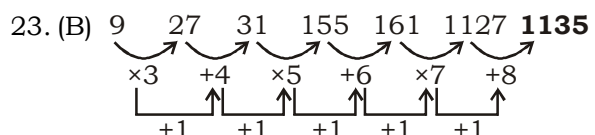
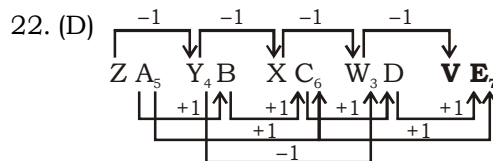
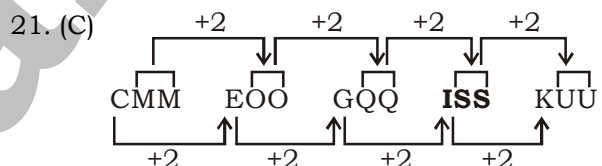
$$(4)^2 + (5)^2 + (6)^2 = 16 + 25 + 36 \neq 73$$



18. (D) Except X, the position of the letters of alphabet is in the form of multiple of 5. Position (Y) = 25, Position (J) = 10, Position (T) = 20, Position (X) = 24.



20. (C)



25. (C) Blackboard is in Class and Class is in the School.

26. (A) A is the mother of B, B is the brother of C and C is the daughter of D. Hence, D is the father.

A (Parents) D

| |

B is the Brother of **C**

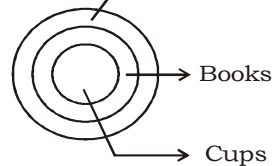
Here, the one which are bold are females (A, C) and not bold are males (B, D).

27. (D) From *wilkospadi*, we can determine that *wilko* means bicycle and *spadi* means race. So, the first part of the word that means race car should begin with *spadi*. As the word *wilko* means bicycle. Therefore, the answer must be choice (D), *spadivolo*.

28. (D) According to the statement, 80% of the total runs were made by spinners. So, I does not follow. Nothing about the opening batsmen is mentioned in the statement. So, II also does not follow.

29. (C) The correct order is :
Advertisement Application Interview
(5) → (6) → (2)
Selection Appointment Probation
(3) → (4) → (1)

30. (B) Shirts 1. ✗ 2. ✓



31. (B) 'The only daughter of the father of X's mother' means mother of X. Hence X is the son of the lady in the photograph.

32. (C) $(4 \times 7) \div 4 = 7$
and $(6 \times 2) \div 3 = 4$
Therefore, $(6 \times 2) \div 2 = 6$

33. (D) $(5 \times 6) + 2 = 32$
 $(7 \times 6) + 2 = 44$
 $(7 \times 5) + 2 = 37$

34. (D) $(1)^2 + (5)^2 + (4)^2 + (3)^2 = 51 \Rightarrow 51 \times 10 = 510$
and $(3)^2 + (4)^2 + (6)^2 + (2)^2 = 65 \Rightarrow 65 \times 10 = 650$
Similarly,
 $(0)^2 + (1)^2 + (2)^2 + (8)^2 = 69 \Rightarrow 69 \times 10 = 690$.

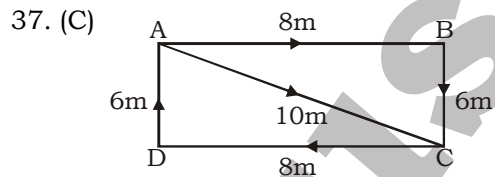
35. (C) For first triangle,
 $10 - 4 = 6$
 $18 - 10 = 8$
 $18 - 4 = 14$
For second triangle,
 $14 - 8 = 6$
 $22 - 14 = 8$
 $22 - 8 = 14$
For third triangle,
 $11 - 5 = 6$
 $15 - 11 = 4$
 $15 - 5 = 10$.

36. (A)

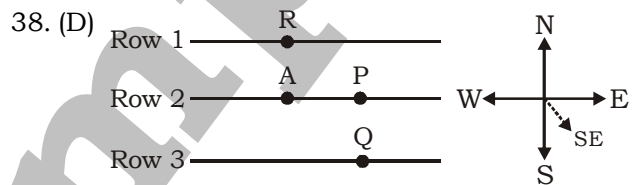
Top Face			
Bottom Face			

[Take '.' (3) points as common and move in a clockwise direction.]

We can observe that "∴" (4) points is missing. So, four (4) points will be top when three (3) points are at bottom.



$$\begin{aligned} \text{Required distance} &= 8 + 6 + 8 + 6 + \sqrt{8^2 + 6^2} \\ &= 28 + \sqrt{100} \\ &= 28 + 10 = 38 \text{ m} \end{aligned}$$



Q is in South-East of R.

39. (D) Let x and y be the number of deer and peacocks in the Zoo respectively. Then,
 $x + y = 80$... (i) and
 $4x + 2y = 200$ or $2x + y = 100$... (ii)
Solving (i) and (ii), we get $x = 20$, $y = 60$.
So, the number of peacocks in a Zoo is 60.

40. (B) Let Tanya's share = ₹ x
Then, Veena's share = ₹ $\left(\frac{x}{2}\right)$

$$\text{Amit's share} = ₹ \left(\frac{2}{3} \times \frac{x}{2}\right) = ₹ \left(\frac{x}{3}\right)$$

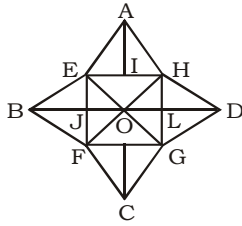
$$\text{Total bill} = ₹ \left(x + \frac{x}{2} + \frac{x}{3}\right) = ₹ \left(\frac{11x}{6}\right)$$

$$\therefore \text{Required fraction} = \left(\frac{x}{2} \times \frac{6}{11x}\right) = \frac{3}{11}$$

41. (B) When Rahul was born, his brother's age = 6 yrs
His father's age = $(6 + 32)$ years = 38 yrs
His mother's age = $(38 - 3)$ years = 35 yrs
His sister's age = $(35 - 25)$ years = 10 yrs.

42. (A)

43. (C)



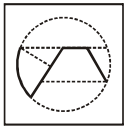
The simplest triangles are AEI, AIH, BEJ, BKF, CFK, CKG, DGL, DLH, EOJ, FOJ, FOG, LOG, HOL and HOE i.e. 14 in number.

Triangles composed of two components each are EAH, FBE, BEO, EOF, BFO, FCG, GDH, HOD, HOG and GOD i.e. 10 in number.

Triangles composed of three components each are EFH, EHG, FGH and EFG i.e. 4 in number.

Thus, there are $14 + 10 + 4 = 28$ triangles in the given figure.

44. (B)



45. (A)

46. (B) 1, 5, 7 have two similar elements, one inside the other.

2, 4, 8 have one element placed inside a different element.

3, 6, 9 have two similar elements, one inside the other and the area between the two elements is shaded.

47. (C)



48. (D)

•••	•	•••	Top face
••	••	•••	Opposite face

When the given figure is folded to form a cube, then the face bearing six dots will lie opposite the face bearing three dots.

49. (C) All other figures except (C) contain a geometrical figure along with its mirror image.

50. (C)

51. (C) Halebidu (literally "ruined city"), also known as Dwarasamudra, was the regal capital of the Hoysala Empire in the 12th century. It is home to one of the best examples of Hoysala architecture in the ornate Hoysaleswara and Kedarewara temples. This name 'Halebidu' was given because this city was ruined two times by Bahmani Sultanate.

52. (C) The Vice President of India is the second highest office in India, after the President. The Vice President is elected indirectly by an electoral college consisting members of both houses of the Presidency upon the death, resignation, impeachment or other situations leading to the vacancy in the Office of President.

54. (A) The preamble to the Constitution of India is a brief introductory statement that set out the guiding purpose and principles of the document. As originally enacted the preamble described the state as a 'sovereign democratic republic'. In 1976 the Forty second Amendment changed this to read 'sovereign socialist secular democratic republic'.

55. (B) The Tummalapalle Mine is a uranium mine in Tumalapalli village located in Kadapa of the Indian state of Andhra Pradesh. Tummalapalle in Andhra Pradesh could have one of the largest uranium reserves in the world. Recent studies have indicated that it could have a reserve of 1.5 lakh tonnes of the scarce material.

56. (B) The Indo-Greek kings were the first to issue gold coins in India and their coins were special in the sense that each king had his own distinctive coins by which he could be definitely identified. The names of at least thirty Bactrian kings are known with the help of numerous coins, and they help in the reconstruction of the history of the kings. The coins carry legends in Greek and also in Kharosthi and Brahmi.

57. (D) Laterite soils are found on the highland areas of plateau i.e. Karnataka, Kerala, Tamil Nadu and also in some hilly regions of Assam, Rajmahal hills and Chhotanagpur plateau. These soils are poor in lime but rich in iron. So these are suitable for plantation of crops like tea, rubber, coffee etc.

62. (B) Seller's market is a market which has more buyers than sellers. High prices result from this excess of demand over supply. The opposite of the seller's market is the buyer's market, where supply greatly exceeds demand.

63. (C) Balance of payments (BoP) accounts are an accounting record of all monetary transactions between a country and the rest of the world. These transactions include payment for the country's exports and imports of goods, services, financial capital and financial transfers. The BoP accounts summarize international transactions for a specific period, usually a year and are prepared in a single currency, typically the domestic currency for the country concerned.

64. (A) South-South Cooperation is a term historically used by policymakers and academics to describe the exchange of resources, technology and knowledge between developing countries, also known as countries of the global South.
66. (A) Kannada writer, poet Sumatheendra R. Nadig has passed away recently. He was 83.
68. (D) Life Divine is the philosophical magnum opus of Sri Aurobindo. It combines a synthesis of western insights. The Life Divine covers topics such as the human aspiration, the emergence of life in the cosmos, the evolution of matter to spirit in the universe, the division and dualities inherent in human consciousness, the man's ignorance through an evolution of consciousness, and the spiritual destiny of life on earth.
71. (A) Maharashtra Government has announced a special assistance of 500 crore rupees for OBC community to help them develop employment opportunities for the youth
72. (B) Disinvestment is a process where Government sells its equity holding to private sectors. In other ways it is a privatization process where private parties are given shareholding in Government undertakings either wholly or partially.
73. (D) A modem (modulator-demodulator) is a device that modulates an analog carrier signal to encode digital information and also demodulates such a carrier signal to decode the transmitted information. The goal is to produce a signal that can be transmitted easily and decoded to reproduce the original digital data.
74. (B) Bank of India is an Indian state-owned commercial bank with headquarters in Mumbai (Maharashtra). It has been government-owned since nationalization in 1969. It is India's 4th largest PSU bank after State Bank of India, Punjab National Bank and Bank of Baroda.
76. (D) S. Gurumurthy and Satish Kashinath Marathe have been appointed as part time non-official directors on the central board of Reserve Bank of India for four years.
77. (B) The Nobel Peace Prize is one of the five Nobel Prizes bequeathed by the Swedish industrialist, inventor and armaments manufacturer Alfred Nobel, along with the prizes in Chemistry, Physics, Physiology or Medicine and Literature.
- Since 1901, it has been awarded annually (with some exceptions) to those who have done the most or the best work for fraternity between nations, for the abolition or reduction of standing armies and for the holding and promotion of peace. Nobel Prize is not given in Mathematics.
78. (D) The Hypertext Transfer Protocol (HTTP) is an application protocol for distributed, collaborative, hypermedia information systems. HTTP is the foundation of data communication for the World Wide Web. HTTP is the protocol to exchange or transfer hypertext.
81. (C) In this case the given equation shows that the velocity is linear with time and therefore the particle is moving with constant acceleration because for a particle to acquire constant acceleration the graph of the velocity time graph should be linear with the time functions.
82. (C) Spirit is highly volatile. So when it is exposed, it evaporates rapidly to the air and if released into the environment it produces a cool effect.
84. (D) Mass number = protons or mass of electron (atomic number) + neutrons. So it is mostly greater than the atomic number. At best, it can be equal to the atomic number.
85. (C) Insulin is a peptide hormone produced by beta cells of the pancreas, and is used for regulating carbohydrate and fat metabolism in the body. Insulin causes cells in the liver, skeletal muscles, and fat tissue to take up glucose from the blood. In the liver and skeletal muscles, glucose is stored as glycogen, and in adipocytes it is stored as triglycerides.
86. (B) 3rd India-Nepal Coordination meeting was held in New Delhi.
- Nepal:
- Capital: Kathmandu
 - Currency: Rupee
 - President: Bidhya Devi Bhandari
 - Prime Minister: Khadga Prasad Oli
87. (C) Nikhil Nanda has been appointed as the chairman and managing director (CMD) of Escorts.
88. (C) The total energy of a revolving electron in any orbit is the sum of its kinetic and potential energies. Energy of an electron at infinite distance from the nucleus is zero. As an electron approaches the nucleus, the electron attraction increases and the energy of electron decreases and thus becomes negative. Thus, it can never be positive.

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92. (B) Indigo is a dye different from any other. It does not require any mordant. Rather it is dyed through a living fermentation process. The process 'reduces' the Indigo, changing it from blue to yellow. In this state, it is a bright green. Slowly the air changes it to the beautiful deep and rich blue of Indigo.
93. (D) Progesterone is one of the hormones in our body that stimulates and regulates various functions. Progesterone plays a role in maintaining pregnancy. The hormone is produced in the ovaries (the placenta (when a woman gets pregnant) and the adrenal glands). It helps in preparing the body for conception and pregnancy and regulates the monthly menstrual cycle. It also plays an important role in sexual desire.
94. (D) A rectifier is an electrical device that converts alternating current (AC) which periodically reverses direct current (DC) which flows in only one direction. The process is known as rectification. Physically, rectifiers take a number of forms including vacuum tube diodes and mercury valves, solid-state diodes, silicon-controlled rectifiers and other silicon-diode based semiconductor switches.
95. (C) Landfill is the most common and the oldest method for waste disposal management. Incineration is the second largest method for waste disposal management in most of the countries around the world.
96. (B) Saikhom Meerabai Chanu (born 8 August 1994) is an Indian weightlifter. She withdrew his name from the Asian Games starting from 18th August in Jakarta.
97. (C) Zirconium is a lustrous, grey-white, strong transition metal that resembles Titanium. Zirconium is mainly used as a refractory and opacifier, although it is used in small amounts as an alloying agent for its strong resistance to corrosion.
98. (A) Andhra Pradesh Chief Minister N Chandrababu Naidu has inaugurated World's first thermal battery plant.
- World's first-ever facility to create thermal batteries was inaugurated in Andhra Pradesh.
99. (C) A basic microscope is made up of two converging lenses. The first lens creates a real image which serves as the object

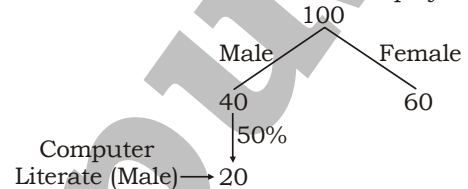
for the second lens, and the image created by the second lens is the one a viewer sees. The final image is magnified, virtual and is inverted compared to the original object.

100. (B) Anita Kumar has become the first Indian-American to be elected to the board of the 'White House Correspondents Association' (WHCA).

White House Correspondents' Association (WHCA)

- Formation: February 25, 1914
- President: Olivier Knox
- Location: Washington, D.C.

101. (B) Let the total no. of employees be



Total percentage of male computer literate = 20%

total percentage of female computer literate = 62% - 20% = 42%

Hence no. of female literates

$$= \frac{42}{100} \times 1600 = 672$$

102. (B) Son Daughter Nephew

$$5 \times 5 : 4 \times 4 : 1 \times 2$$

$$25 : 16 : 2 \rightarrow 43$$

$$\downarrow \times 400$$

$$17200$$

Share of each daughter

$$= \frac{16 \times 400}{4} = ₹ 1600$$

103. (A) Ist person $\rightarrow 6$ 4

IInd person $\rightarrow 8$ 3

I + II + child $\rightarrow 3$ 8

$$\text{Share of child} = \frac{200}{8} \times 1 = ₹ 25$$

104. (A) $10\% = \frac{1}{10}$, $20\% = \frac{1}{5}$, $25\% = \frac{1}{4}$

	I	II	III
CP	$10_{\times 2}$	$5_{\times 3}$	$4_{\times 6}$
SP	$9_{\times 2}$	$6_{\times 3}$	$3_{\times 6}$
P/L	$-1_{\times 2}$	$+1_{\times 3}$	$-1_{\times 6}$

ATQ,

SP is same in both cases

$$\text{So Average CP} = \frac{(20 + 15 + 24)}{3} = \frac{59}{3}$$

$$\text{Average SP} = \frac{(18 + 18 + 18)}{3} = \frac{54}{3}$$

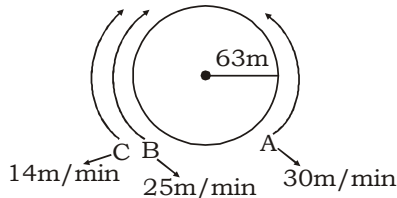
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$$\text{Required percentage} = \frac{\left(\frac{59}{3} - \frac{54}{3}\right)}{\frac{54}{3}} \times 100$$

$$= 9.256\% \text{ higher}$$

105. (A)



circumference of circular track = $2\pi R$

$$= 2 \times \frac{22}{7} \times 63 = 396 \text{ m}$$

Speed of B against A = $(30 + 25) = 55 \text{ m/min}$

Speed of C against A = $(30 + 14) = 44 \text{ m/min}$

(i) Time taken to meet together first time

$$= \frac{\text{Distance}}{\text{HCF}(\text{speed})}$$

$$t_1 = \frac{396}{\text{HCF}(55, 44)} = \frac{396}{11}$$

$$t_1 = 36 \text{ min}$$

106. (C) Let the sum be P.

$$\therefore 101.50 = P \left[\left(1 + \frac{3}{100}\right)^2 - 1 \right]$$

$$\left[\because \text{C.I.} = P \left[\left(1 + \frac{r}{100}\right)^n - 1 \right] \right]$$

$$\Rightarrow 101.50 = P \left[\left(\frac{103}{100}\right)^2 - 1 \right]$$

$$\Rightarrow 101.50 = P \left(\frac{10609 - 10000}{10000} \right)$$

$$\Rightarrow P = ₹ \frac{101.50 \times 10000}{609} = ₹ \frac{1015000}{609}$$

$$\therefore \text{S.I.} = \frac{1015000 \times 2 \times 3}{609 \times 100} = ₹ 100$$

107. (B) Ratio of values of 50 paise, 25 paise and 10 paise coins

$$= \frac{2}{2} : \frac{3}{4} : \frac{5}{10} = 1 : \frac{3}{4} : \frac{1}{2}$$

$$= 4 : 3 : 2$$

Sum of the ratios = $4 + 3 + 2 = 9$

$$\text{Value of 25 paise coins} = \frac{3}{9} \times 90 = ₹ 30$$

$$\text{Number of 25 paise coins} = 30 \times 4 = 120$$

108. (A) Here, $12 - 2 = 10$

$$16 - 6 = 10$$

$$24 - 14 = 10$$

Now, LCM of 12, 16 and 24 = 48

\therefore The greatest 4-digit number exactly divisible by 48 = 9984

\therefore Required number

$$= 9984 - 10 = 9974$$

109. (A) A 15 \rightarrow 4 bricks/hour
B 20 \rightarrow 3 bricks/hour
Total work units = 60

Together (A + B) can add $(4 + 3)$

$$= 7 \text{ bricks/hour}$$

ATQ,

They build the wall in 12 hours

$$\therefore \text{per hour work} = \frac{60}{12} = 5 \text{ bricks/hour}$$

$$(7 - 5) \text{ units} \rightarrow 280 \text{ bricks}$$

$$2 \text{ units} \rightarrow 280 \text{ bricks}$$

$$1 \text{ unit} \rightarrow \frac{280}{2} = 140 \text{ bricks}$$

$$60 \text{ units} \rightarrow 140 \times 60 = 8400 \text{ bricks}$$

110. (B) We know that

$$l = a + (n - 1)d \rightarrow \begin{array}{l} \text{last term} \\ \text{first term} \\ \text{no. of terms} \end{array} \begin{array}{l} \text{common} \\ \text{Diff.} \end{array}$$

Hare,

$$l = 4950$$

$$a = 1125$$

$$d = 225$$

So,

$$4950 = 1125 + (n - 1)225$$

$$(4950 - 1125) = (n - 1)225$$

$$(n - 1) = \frac{3825}{225}$$

$$(n - 1) = 17$$

$$n = 17 + 1 = 18$$

111. (A) That month will have 5 sundays.

\therefore Required average

$$= \frac{5 \times 510 + 25 \times 240}{30} = \frac{2550 + 6000}{30}$$

$$= \frac{8550}{30} = 285$$

112. (C) $25\% = \frac{1}{4}$

Vivek	Aryan	Ram
$\frac{3 \times 5}{5 \times 3}$	$\frac{4 \times 5}{4 \times 5}$	$\frac{4 \times 3}{4 \times 3}$
15	20	12

Required Percentage = $\frac{8}{12} \times 100$
= 66.66%

113. (C) CP : SP
(100 - 12.5) : (100 + 5)
87.5 : 105
35 : 42

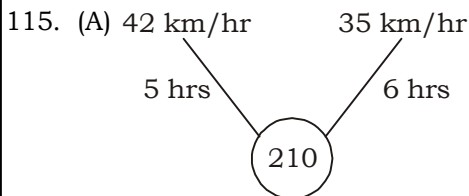
↖ +7 ↗

Required percentage = $\frac{7}{35} \times 100 = 20\%$

114. (B) Let x be the maximum marks
then pass marks = 28% of $x + 12 = 30\%$ of $x + 6$
2% of $x = 6$

maximum marks $x = \frac{6}{2} \times 100 = 300$

passing marks = $\frac{30}{100} \times 300 + 6 = 96$.



∴ Difference in time = $6 - 5 = 1$ hour
= 60 minutes
But the given difference = $15 + 5 = 20$ min
i.e $60 \longrightarrow 20$

∴ $210 \longrightarrow \frac{20}{60} \times 210 = 70 \text{ kms}$

Hence, the required distance = 70 kms

116. (A) Let the rate of interest be $r\%$ per annum, ATQ,

$4840 = P \left(1 + \frac{r}{100}\right)^2$... (i)

and $5324 = P \left(1 + \frac{r}{100}\right)^3$... (ii)

On dividing equation (ii) by equation (i), we have,

$1 + \frac{r}{100} = \frac{5324}{4840} = 1 + \frac{484}{4840}$

$\Rightarrow \frac{r}{100} = \frac{484}{4840}$

$\Rightarrow r = 10\%$

117. (A) Let the two numbers be A and B.
Then, $A + B = 22$
and $A^2 + B^2 = 404$
We know that
 $(A + B)^2 = A^2 + B^2 + 2AB$
or $(22)^2 = 404 + 2AB$
or $484 = 404 + 2AB$
or $2AB = 80$
or $AB = 40$
∴ The product of the two numbers = 40

118. (A) First discount
 $= 320 \times \frac{10}{100} = ₹ 32$
∴ Price after first discount
 $= 320 - 32 = ₹ 288$
If the second discount be $x\%$, then
 $\therefore \frac{288 \times x}{100} = 288 - 244.80 = 43.2$

$\Rightarrow x = \frac{43.2 \times 100}{288} = 15\%$

119. (C) Let the original number of students in three classes be $2x$, $3x$ and $5x$ respectively. As given,

$\frac{2x + 20}{3x + 20} = \frac{4}{5}$
 $\Rightarrow 10x + 100 = 12x + 80$
 $\Rightarrow 12x - 10x = 100 - 80$
 $\Rightarrow 2x = 20$

$\Rightarrow x = \frac{20}{2} = 10$

∴ Total number of students originally
 $= 2x + 3x + 5x = 10x$
 $= 10 \times 10 = 100$

120. (A) $A \rightarrow 10$
 $B \rightarrow 20$
 $C \rightarrow -12$

6
3
-5

(60) Total capacity of tank

Water filled by all the three pipes (A + B + C) in 3 hours = $(6 + 3 - 5) = 4$ units

Time	:	Work done
3 hours	→	4 units
↓ × 13		↓ × 13
39 hours		52 units

Remaining work = $(60 - 52) = 8$ units
Work done by A on 14th day = 6 units
Remaining work = $(8 - 6) = 2$ units

Required time = $\frac{2}{3}$ hours

Total required time = $39 + 1 + \frac{2}{3}$

$= 40 \frac{2}{3}$ hours

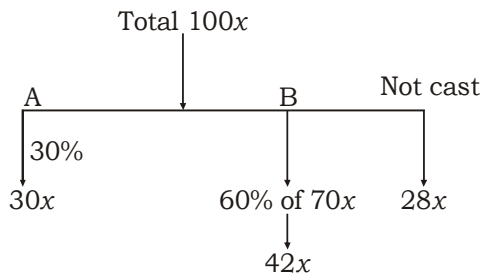
121. (D) $\frac{\sqrt{24} + \sqrt{216}}{\sqrt{96}} = \frac{2\sqrt{6} + 6\sqrt{6}}{4\sqrt{6}} = \frac{8\sqrt{6}}{4\sqrt{6}} = 2$

122. (B) Total age of 40 old students
 $= 40 \times 15 = 600$ years
 Total age of 40 old and 10 new students
 $= 50 \times 15.2 = 760$ years
 \therefore Total age of 10 new students
 $= 760 - 600 = 160$ years
 \therefore Required average age

$$= \frac{160}{10} = 16 \text{ years}$$

123. (D) According to question,
 $200 \times 31 = 27 \times 200 + 80 \times D$
 $4 \times 200 = 80 \times D$
 $\Rightarrow D = 10$ days
 Extra days $= (10 - 4) = 6$ days

124. (C) Let the total number of Voters = $100x$



Difference of the number of voters who vote for A and who did not cast their vote
 $= 30x - 28x = 2x$

ATQ,
 $2x = 1200$
 $x = 600$

\therefore Total number of voters
 $= 100 \times 600 = 60,000$

125. (A) Downstream speed (u) $= \frac{D}{T} = \frac{7}{35} \times 60$
 $= 12$ km/h

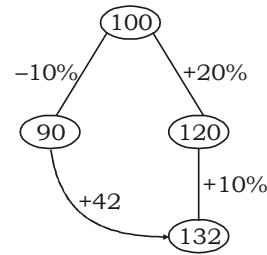
upstream speed (v) $= \frac{D}{T} = \frac{2}{30} \times 60$
 $= 4$ km/h

Speed of boat in still water $= \frac{1}{2}(u + v)$

$$= \frac{1}{2}(12 + 4) = 8 \text{ km/h}$$

Speed of stream $= \frac{1}{2}(u - v) = \frac{1}{2}(12 - 4)$
 $= 4$ km/h

126. (C) Let the cost price of the article = ₹ 100
 ATQ,



Original Profit = 20%

New Profit $= \frac{42}{90} \times 100 = 46.66\%$

Change in profit percentage

$$= \frac{(46.66 - 20)}{20} \times 100$$

$$= 133.33\%$$

127. (D) Let the rate of interest per annum be $r\%$

According to the question,

$$\frac{10000 \times 2 \times r}{100} + \frac{6000 \times 4 \times r}{100} = 4400$$

$$\Rightarrow 200r + 240r = 4400$$

$$\Rightarrow 440r = 4400$$

$$\Rightarrow r = \frac{4400}{440} = 10\%$$

128. (C) $2 \sin^2\theta + 3 \cos^2\theta$

$$= 2 \sin^2\theta + 2 \cos^2\theta + \cos^2\theta$$

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

$$= 2 + \cos^2\theta \quad [\because \sin^2\theta + \cos^2\theta = 1]$$

$$\therefore \text{Minimum value of } \cos\theta = -1$$

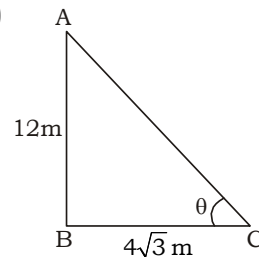
But $\cos^2\theta \geq 0$, when $\theta = 90^\circ$

$[\because \cos 0^\circ = 1, \cos 90^\circ = 0]$

$$\therefore \text{Required minimum value}$$

$$= 2 + 0 = 2$$

129. (B)



AB = pole = 12 metre

Shadow = BC = $4\sqrt{3}$ metre

From $\triangle ABC$,

$$\tan\theta = \frac{AB}{BC} = \frac{12}{4\sqrt{3}} = \sqrt{3}$$

$$\Rightarrow \tan\theta = \tan 60^\circ$$

$$\Rightarrow \theta = 60^\circ$$

130. (B) $x = 3 + 2\sqrt{2}$

$$\therefore \frac{1}{x} = \frac{1}{3 + 2\sqrt{2}}$$

$$= \frac{1}{3+2\sqrt{2}} \times \frac{3-2\sqrt{2}}{3-2\sqrt{2}}$$

$$= \frac{3-2\sqrt{2}}{9-8} = 3-2\sqrt{2}$$

$$\therefore \left(\sqrt{x} - \frac{1}{\sqrt{x}}\right)^2 = x + \frac{1}{x} - 2$$

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

$$\therefore \sqrt{x} - \frac{1}{\sqrt{x}} = 2$$

131. (A) Here in $\triangle AEC$,
 $\angle A + \angle E + \angle C = 180^\circ$... (i)

In $\triangle BFD$,
 $\angle B + \angle F + \angle D = 180^\circ$... (ii)

Adding (i) and (ii) we get,
 $\angle A + \angle B + \angle C + \angle D + \angle E + \angle F = 360^\circ$

132. (A) Area of walls = $2(l+b) \times h$
 $= 2(8+6) \times 3 = 84 \text{ m}^2$

Area of two windows and a door

$$= 2\left(1\frac{1}{2} \times 1\right) + \left(2 \times 1\frac{1}{2}\right) = 6 \text{ m}^2$$

\therefore Area to be covered = $84 - 6 = 78 \text{ m}^2$

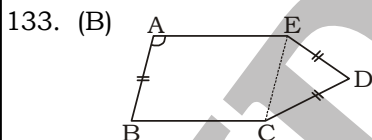
\therefore Area of paper = Area to be covered = 78 m^2

$\Rightarrow (l \times b)$ of paper = 78

$$\Rightarrow \text{length of paper} = \frac{78}{50} \times 100 \text{ m}$$

$$= 156 \text{ m}$$

$$\therefore \text{cost} = \frac{156 \times 25}{100} = ₹ 39$$



$\angle BCE = 102^\circ$, $AB = CD = ED$ (given)

$\therefore CD = ED = CE$ [$\because AB = CE$]

$\triangle ECD$ is an equilateral triangle.

$\therefore \angle ECD = 60^\circ$

$\angle BCD = 102^\circ + 60^\circ$

$= 162^\circ$

134. (C) $a^2 + b^2 + 2b + 4a + 5 = 0$

$$\Rightarrow a^2 + 4a + b^2 + 2b + 5 = 0$$

$$\Rightarrow a^2 + 4a + 4 + b^2 + 2b + 1 = 0$$

$$\Rightarrow (a+2)^2 + (b+1)^2 = 0$$

It is possible only when

$$a+2=0$$

$$\Rightarrow a=-2$$

$$\text{and, } b+1=0$$

$$\Rightarrow b=-1$$

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

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

135. (D) $4\pi(r+2)^2 - 4\pi r^2 = 704$

$$\Rightarrow (r+2)^2 - r^2 = \frac{704}{4\pi}$$

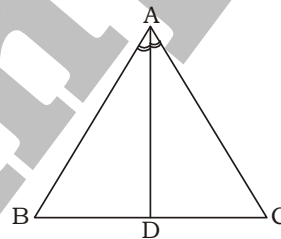
$$\Rightarrow r^2 + 4r + 4 - r^2$$

$$= \frac{704 \times 7}{4 \times 22} = 56$$

$$\Rightarrow 4r = 56 - 4 = 52$$

$$\Rightarrow r = 13 \text{ m}$$

136. (A)



$$\frac{AB}{AC} = \frac{BD}{DC} = \frac{5}{7.5-5} = \frac{50}{25} = \frac{2}{1} = 2:1$$

137. (A) Expression

$$= \sqrt[3]{p(p^2 - 3p + 3)} - 1$$

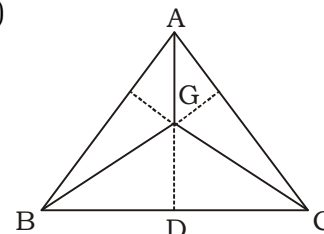
$$= \sqrt[3]{p^3 - 3p^2 + 3p - 1}$$

$$\sqrt[3]{(p-1)^3} = p-1 = 101-1 = 100$$

138. (A) Volume of remaining solid = $\frac{2}{3}\pi r^2 h$

$$= \frac{2}{3}\pi \times 6 \times 6 \times 10 = 240\pi \text{ cm}^3$$

139. (D)



$$\begin{aligned} \text{Area of } \triangle ABC &= 6 \times \text{ar}(\triangle BGD) \\ &= 6 \times 6 = 36 \text{ cm}^2 \end{aligned}$$

140. (A) $(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$

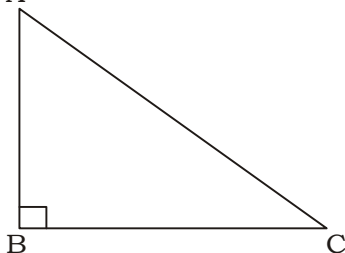
$$\Rightarrow (4\sqrt{3})^2 = 16 + 2(ab + bc + ca)$$

$$\Rightarrow 48 = 16 + 2(ab + bc + ca)$$

$$\Rightarrow 2(ab + bc + ca) = 48 - 16 = 32$$

$$\Rightarrow ab + bc + ca = 16$$

141. (B) A



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

$$\Rightarrow AB = 2k, BC = k$$

$$\therefore AC = \sqrt{(2k)^2 + k^2} = \sqrt{5k^2}$$

$$= \sqrt{5}k$$

$$\therefore \sin A + \cot C = \frac{BC}{AC} + \frac{BC}{AB}$$

$$= \frac{k}{\sqrt{5}k} + \frac{k}{2k}$$

$$= \frac{1}{\sqrt{5}} + \frac{1}{2} = \frac{2 + \sqrt{5}}{2\sqrt{5}}$$

142. (B) $x = 11$

$$\begin{aligned} \therefore x^5 - 12x^4 + 12x^3 - 12x^2 + 12x - 1 \\ &= x^5 - (11 + 1)x^4 + (11 + 1)x^3 - (11 + 1)x^2 + \\ &(11 + 1)x - 1 \\ &= x^5 - 11x^4 - x^4 + 11x^3 + x^3 - 11x^2 - x^2 + 11x + \\ &x - 1 \end{aligned}$$

When $x = 11$,

$$\begin{aligned} &= 11^5 - 11^5 - 11^4 + 11^4 + 11^3 - 11^3 - 11^2 + 11^2 \\ &+ 11 - 1 = 10 \end{aligned}$$

143. (A) $\tan^2 \alpha = 1 + 2 \tan^2 \beta$

$$\Rightarrow \sec^2 \alpha - 1 = 1 + 2(\sec^2 \beta - 1)$$

$$\Rightarrow \sec^2 \alpha - 1 = 2 \sec^2 \beta - 1$$

$$\Rightarrow \frac{1}{\cos^2 \alpha} = \frac{1}{2 \cos^2 \beta}$$

$$\Rightarrow \sqrt{2} \cos \alpha = \cos \beta$$

$$\therefore \sqrt{2} \cos \alpha - \cos \beta = 0$$

144. (A) $\sin 3A = \cos(A - 26^\circ)$

$$\Rightarrow \cos(90^\circ - 3A) = \cos(A - 26^\circ)$$

$$\Rightarrow 90^\circ - 3A = A - 26^\circ$$

$$\Rightarrow 90^\circ + 26^\circ = 3A + A$$

$$\Rightarrow 4A = 116^\circ$$

$$\Rightarrow A = \frac{116}{4} = 29^\circ$$

145. (B) Arc length = 40 cm

$$\text{Subtend angle} = 22\frac{1}{2}^\circ$$

$$\text{radius} = \frac{40 \times 180}{22\frac{1}{2} \times 3.14} = 102 \text{ cm}$$

146. (A) Students enrolled in NCC activities

$$= \frac{1200 \times 15}{100} = 180$$

147. (C) Total students in HRD & Debating club

$$= 1200 \times \frac{(13 + 11)}{100} = 288$$

148. (D) Required percent

$$= \frac{22}{21} \times 100 = 104.76\%$$

149. (A) Required ratio

$$= (18 + 21) : 13$$

$$= 39 : 13 = 3 : 1$$

150. (A) Eco-club : Human resource development club

$$= 22 : 11 = 2 : 1$$

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Accustom	Make psychologically or physically used to something	आदी या अभ्यस्त
Affirming	To state firmly or publicly that something is true or that you support something strongly	स्वीकार करना, दृढ़तापूर्वक कहना
Agonise	Undergo great mental anguish through worrying about something	व्यथित होना, चिंतित रहना
Appraisal	An expert estimation of the quality, quantity, and other characteristics of someone or something	मूल्यांकन, समीक्षा
Candid	Saying what you think openly and honestly; not hiding your thoughts	निष्कपट, सच्चा
Capitalism	An economic system based on private ownership of capital	पूंजीवाद
Clandestine	Conducted with or marked by hidden aims or methods	गुप्त
Communism	A form of socialism that abolishes private ownership	साम्यवाद
Connoisseur	One who understands the details, technique, or principles of an art and is competent to act as a critical judge	विशेषज्ञ
Covert	Secret or hidden	गुप्त,
Dabble	To take part in an activity in a way that is not serious	उपरी तौर से दिलचस्पी लेना
Derail	Cause to run off the tracks	पथभ्रष्ट हो जाना/पटरी से उतर जाना
Enterprise	A purposeful or industrious undertaking especially one that requires effort or boldness	उपक्रम
Imperialism	A policy of extending your rule over foreign countries	साम्राज्यवाद
Invigorate	To cause (something) to become more active and lively	स्फूर्ति से भर देना
Ken	Range of what one can know or understand	ज्ञान की सीमा, दृष्टि
Languish	To continue for a long time without activity or progress in an unpleasant or unwanted situation	दिन काटना पीड़ा व परेशानी में
Meld	To combine with something else	सम्मिलित हो जाना
Ominous	Suggesting that something bad is going to happen in the future	अशुभ, अपशकुन
Perennial	Recurring again and again	निरंतर, सार्वकालिक
Perish	To disappear or be destroyed : to cease to exist	नष्ट हो जाना
Pick a quarrel with somebody	To deliberately start a fight or an argument with somebody	जानबूझ कर किसी के साथ लड़ाई या बहस शुरू करना
Rational	Based on facts or reason and not on emotions or feelings	तर्कसंगत
Self proclaim	Based on one's own assertion	स्व-घोषित
Sojourn	A temporary stay	अस्थायी निवास
Standpoint	A mental position from which things are viewed	दृष्टिकोण
Stray	To move away from the place where you should be, without intending to	हट जाना
Swarm	A very large number of insects moving together	झुंड (कीट का)
Tyranny	Unfair or cruel use of power or authority	अत्याचार, निरंकुशता

CPO MOCK TEST - 27 (ANSWER KEY)

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

151. (D) No error.

152. (B) Replace 'more sweetly' by 'sweeter'.
When two things (the roses in your garden and those in ours) are compared, comparative, degree is used and when a verb of sensation is used (smell, taste, seem etc), we use an adjective not an adverb.

153. (B) Change 'can' into 'could'. Since, the sentence is in past, 'can' must be changed into 'could'.

154. (C) We exercise (when exercise is used as a verb) or do exercise (when exercise is used as a noun).

155. (B) Change 'to go' into 'going'. As, all the prepositions take 'V₁ + ing' after them.

