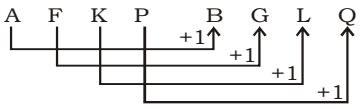
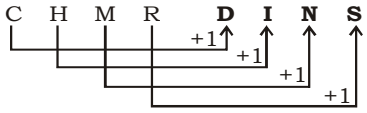
KD Campus
KD Campus Pvt. Ltd
PLOT NO.2, SSI INDUSTRIAL AREA, G.T. KARNAL ROAD, JAHANGIRPURI, DELHI

CPO MOCK TEST – 33 (SOLUTION)

1. (B) 'Oval' is related to 'Circle' in the same way 'Rectangle' is related to **Square**.
2. (C) A cub is a young bear, and a joey is a young **kangaroo**.
3. (D) A **bracelet** is worn around the wrist and a belt is worn around the waist.
4. (C) You enter and exit a highway by a ramp and you enter and exit a house by a **door**.
5. (B) A vamp is part of a shoe and a hood is part of a **car**.
6. (C) A **haiku** is a type of poem and a fable is a type of story.
7. (A) 

Similarly,


8. (D) $\frac{18\times18}{2}=\frac{324}{2}=162$
Similarly,
$\frac{36\times36}{2}=\frac{1296}{2}=648$
9. (A) 9536 – 6203 = 3333,
Similarly,
? = 5873 – 3333 = 2540
10. (C) Loss of memory is referred to as Amnesia. Similarly, loss of movement is referred to as Paralysis.
11. (A) 72 – 41 = 31
30 – 12 = 18
51 – 42 = 9
20 – 11 = 9
Except in option (A), the rest of the difference are one of the factor of 9.
12. (B) Except Nagpur, all are north indian cities.
13. (D) The number 125 is a perfect cube.
5 × 5 × 5 = 125
14. (D) F $\xrightarrow{+3}$ I $\xrightarrow{+2}$ K
D $\xrightarrow{+3}$ G $\xrightarrow{+2}$ I
M $\xrightarrow{+3}$ P $\xrightarrow{+2}$ R
K $\xrightarrow{+3}$ N $\xrightarrow{-10}$ D
15. (D) The scientific study of the second is called the first in all the pairs except D.
16. (B) Except (B), In others second is a part of first whereas chair and sofa are different types.
17. (C) Kennel is a shelter for a pet dog, stable is a shelter for horses. Den is a living place of lion. But lock is used for safety of a door.
18. (D) 5 + 2 = 7, 6 + 3 = 9, 2 + 4 = 6
But 3 + 5 = 8 ≠ 6
19. (B) W $\xrightarrow{+5}$ B $\xrightarrow{+9}$ K $\xrightarrow{+6}$ Q $\xrightarrow{+7}$ X $\xrightarrow{+1}$ Y $\xrightarrow{+7}$ F
W $\xrightarrow{+2}$ Y $\xrightarrow{+3}$ B $\xrightarrow{+4}$ F $\xrightarrow{+5}$ K $\xrightarrow{+6}$ Q $\xrightarrow{+7}$ X
Y $\xrightarrow{+3}$ B $\xrightarrow{+15}$ Q $\xrightarrow{+0}$ Q $\xrightarrow{-11}$ F $\xrightarrow{+2}$ H $\xrightarrow{+6}$ N
W $\xrightarrow{+3}$ Z $\xrightarrow{+3}$ C $\xrightarrow{+5}$ H $\xrightarrow{+2}$ J $\xrightarrow{+3}$ M $\xrightarrow{+4}$ Q
20. (D) a **b** c / **c** b a / a b **c** / c b **a**
21. (B)

13	8	9	17	14	22	
↓	↓	↓	↓	↓	↓	
M	H	I	Q	N	V	
1	**12**	**7**	**5**	**2**	**18**	**1**
↓	↓	↓	↓	↓	↓	↓
A	**L**	**G**	**E**	**B**	**R**	**A**
1	7	5	12	18	1	
↓	↓	↓	↓	↓	↓	
A	G	E	L	R	A	
4	21	7	18	13	1	
↓	↓	↓	↓	↓	↓	
D	U	G	R	M	A	

22. (A)

C	A	R		S	I	T		W	E	L	L
↓	↓	↓		↓	↓	↓		↓	↓	↓	↓
∅	α	δ		η	ψ	κ		σ	i	γ	γ

M	A	P					
↓	↓	↓	So,	↓	↓	↓	↓
μ	α	β		**L**	**A**	**M**	**P**

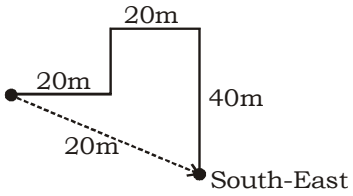
23. (D) 5 × 8 = 28 → 5 × 8 = 40 → 5 + 8 = 13,
13 – 1 = 12 → 40 – 12 = 28
3 × 7 = 12 → 3 × 7 = 21 → 3 + 7 = 10,
10 – 1 = 9 → 21 – 9 = 12
8 × 6 = 35 → 8 × 6 = 48 → 8 + 6 = 14,
14 – 1 = 13 → 48 – 13 = 35
13 × 13 = ? → 13 × 13 = 169 → 13 + 13 = 26,
26 – 1 = 25 → 169 – 25 = 144
24. (B) 13 * 12 * 5 * 4 → 13 = 12 + 5 – 4 = 17 – 4
25. (C) 4 × 8 + 3 = 32 + 3 = 35
7 × 6 + 7 = 42 = 42 + 7 = 49
9 × 8 + 9 = 72 + 9 = **81**
26. (A) $(7)^2 + (5)^2 + (3)^2 = 49 + 25 + 9 = 83$
$(6)^2 + (4)^2 + (2)^2 = 36 + 16 + 4 = 56$
$(8)^2 + (9)^2 + (1)^2 = 64 + 81 + 1 = \mathbf{146}$
27. (B) $\frac{225}{15}=15 \rightarrow 15\times2=30$

$\frac{70}{7} = 10 \rightarrow 10 \times 2 = 20$

$\frac{?}{3} = \frac{8}{2} \rightarrow 2 \times ? = 8 \times 3$

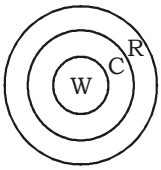
$\therefore \frac{24}{2} = 12$

28. (C)



It is clear from the diagram that I am in south-east direction with respect to the original positon.

29. (B)



1. True 2. True

30. (C)

S	E	Q	U	E	N	C	E
↓	↓	↓	↓	↓	↓	↓	↓
H	V	J	F	V	M	X	V

Opposite Letters

Similarly,

C	H	I	L	D	R	E	N
↓	↓	↓	↓	↓	↓	↓	↓
X	S	R	O	W	I	V	M

31. (D) Only son of woman's grandfather means father of that woman.
Father of woman is the father of man's brother and hence father of that man.
Therefore, the woman is sister of the man in photograph.

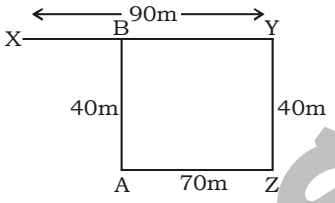
32. (D) Suppose present age of Mrs. Lata = x years
Present age of son = y years;
$\therefore x + y = 64$ ...(i)
According to the question, $x - 8 = 3(y - 8)$
$\Downarrow \quad x - 8 = 3y - 24 \Downarrow \quad x - 3y = -16$ ...(ii)
From equations (i) and (ii), $y = 20$;
$\therefore$ Age of Mrs. Lata = 64 – 20 = 44 years

33. (C) $5 \times 2 + 1 = 11$
$11 \times 2 - 1 = 21$
$21 \times 2 + 1 = 43$
$43 \times 2 - 1 = 85$
$85 \times 2 + 1 =$ **171**

34. (D) $12 \times 2 + 3 = 27$
$27 \times 3 + 4 = 85$
$85 \times 4 + 5 = 345$
$345 \times 5 + 6 =$ **1731**

35. (C) $A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{+3} J$
$Y \xrightarrow{-3} V \xrightarrow{-3} S \xrightarrow{-3} P$
$K \xrightarrow{+3} N \xrightarrow{+3} Q \xrightarrow{+3} T$
Similarly,
$O \xrightarrow{-3} L \xrightarrow{-3} I \xrightarrow{-3} F$

36. (C)



Required distance = XB = 90 – 70
= 20 metre

37. (D) Comparing (i) and (iii) dice we have,

Top	3	**2**	1
Bottom	4	**5**	6

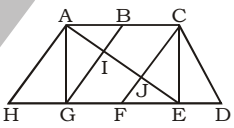
38. (B) Clearly, assumption I is implicit in the statement. It is mentioned that the values of an educated will differ from that of an uneducated person. It does not imply that an uneducated person will not have value.

39. (B) Some teachers may be writers and vice-versa.

40. (A)

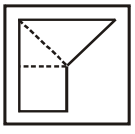
41. (B)

42. (D) The figure may be labelled as shown.

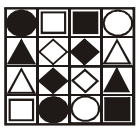


The simplest triangles are AHG, AIG, AIB, JFE, CJE and CED i.e. 6 in number.
Triangles composed of two components each are ABG, CFE, ACJ and EGI i.e. 4 in number.
Triangles composed of three components each are ACE, AGE and CFD i.e. 3 in number.
There is only one triangle i.e. AHE composed of four components.
Therefore, There are 6 + 4 + 3 + 1 = 14 triangles in the given figure.

43. (A)



44. (A)



45. (C) Let x and y be the ten's and unit's digits respectively of the numeral denoting the woman's age.
Then, woman's age = $(10x + y)$ years; husband's age = $(10y + x)$ years.

Therefore $(10y + x) - (10x + y) = \frac{1}{11}(10y + x + 10x + y)$

$\Rightarrow (9y - 9x) = \frac{1}{11}(11y + 11x) = (x + y)$

$\Rightarrow 10x = 8y \Rightarrow \frac{x}{y} = \frac{4}{5}$

$\Rightarrow 10x + y = 10 \times 4 + 5 = 45$

46. (C)
47. (D)
48. (A)
49. (B) L.C.M. of 6, 5, 7, 10 and 12 is 420.
So, the bells will ring together after every 420 seconds i.e. 7 minutes.
Now, 7 × 8 = 56 and 7 × 9 = 63.
Thus, in 1 hour (or 60 minutes), the bells will toll together 8 times, excluding the one at the start.
50. (C)
51. (C) Gandhiji's greatest contribution to the social thought of this century is perhaps his insistence on decentralization of the means of production (economic power). According to him, large-scale industrialism is at the centralization of political power in few hands. It is in the nature of large-scale industries to centralize economic power in the hands of a few individuals. Under capitalism this power comes to be concentrated in the hands of individual capitalists and under socialism, it is arrogated by managers, technocrats and bureaucrats.
54. (C) Numbers of Neutrons in $_{33}Al^{47}$ = 47 – 33 = 14
55. (A) Gopal Hari Deshmukh was a social reformer from Maharashtra. At age of 25, Deshmukh started in the weekly Prabhakar under the pen name Lokhitawadi. In the first two years, he penned 108 articles on social reform. That group of articles has come to be known in Marathi literature as Lokhitawadinchi Shatapatre.
58.(A) Anthony Sinisuka Ginting has won the Men's singles title of China open by defeating Japan's Kento Momota.
60. (C) To be eligible for membership in the Lok Sabha, a person must be a citizen of India and must be of 25 years of age or older, mentally sound, should not be bankrupt and should not be criminally convicted. The minimum age for a person to become a member of Rajya Sabha is 30 years.
62. (C) Visakhapatnam Urban Development Authority (VUDA), in collaboration with Indian Navy's Eastern Naval Command. It has set up India's first ship museum in the port city. The ship museum has been set up at Teneti Park abutting the Rama Krishna beach on the lines of 'INS Kurusura submarine museum' that was set up by the Indian Navy in August 2002.
63. (A) Sarkaria Commission was set up in June 1983. Commission's charter was to examine the relationship and balance of power between state and central governments in the country and suggest changes within the framework of Constitution of India. The Commission was so named as it was headed by Justice Rajinder Singh Sarkaria, a retired judge of the Supreme Court of India. The other two members of the committee were Shri B Sivaraman and Dr S R Sen.
66. (A) The Sargasso Sea is a region in the gyre in the middle of the North Atlantic Ocean. The Sargasso Sea is home to seaweed of the genus Sargassum (origin of its name).
68.(C) The fourth edition of India International Science Festival will be inaugurated by President of India in Lucknow on October 6, 2018. The first and second IISF were held in New Delhi and the third in Chennai.
69. (A) Eutrophication is the ecosystem response to the addition of artificial or natural substances, such as nitrates and phosphates, through fertilizers or sewage, to an aquatic system. One of its example is the "bloom".
72. (C) OMOs are the market operations conducted by the Reserve Bank of India by way of sale/ purchase of Government securities to/ from the market with an objective to adjust the rupee liquidity conditions in the market on a durable basis.
75. (A) Per capita income or average income or income per person is the mean income within an economic aggregate, such as a country or city. It is calculated by taking a measure of all sources of income in the aggregate (such as GDP or Gross National Income) and dividing it by the total population.
77. (C) The Kalinga Prize for the Popularization of Science is an award given by UNESCO for exceptional skill in presenting scientific ideas to lay people. It was created in 1952, following a donation from Biju Patnaik, Founder President of the Kalinga Foundation Trust in India.
78.(A) Padmaja Chunduru has assumed charge as its Managing Director and CEO of Public sector Indian Bank with immediate effect. Earlier, she served State Bank of India as its deputy managing director (global markets), Mumbai.

Indian Bank

- Founded: 15 August 1907
- Headquarters: Chennai
- Tagline: Your Own Bank

80. (C) Iodized salt which is also spelled iodised salt, is table salt mixed with a minute amount of various salts of the element iodine. The ingestion of iodide prevents iodine deficiency. Worldwide, iodine deficiency affects about two billion people and is the leading preventable cause of mental retardation. Deficiency also causes thyroid gland problems, including "endemic goitre." In many countries iodine deficiency is a major public health problem that can be cheaply addressed by purposely adding small amounts of iodine to the sodium chloride salt.

83. (D) Fiber glass is a fiber reinforced polymer made of a plastic matrix reinforced by fine fibers of glass. It is also known as GFK. Fiber glass is a light weight, extremely strong and robust material. Although strength properties are somewhat lower than carbon fiber and it is less stiff, also the material are much less expensive. Its bulk strength and weight properties are very favourable when compared to metals and it can be easily formed using molding processes. Common uses of fiberglass include high performance aircrafts (gliders), boats, automobiles, baths, hot tubs, water tanks, roofing, pipes, cladding, casts, surfboards and external door skins.

86. (C) The peanuts or groundnut (Arachis hypogaea), is a species in the legume "bean" family (Fabaceae). The cultivated peanut was first domesticated in the valleys of Peru. It is an annual herbaceous plant growing tall.

88. (D) John Mccloy was the Bank's President at that time when world bank loan was received by France.

89. (A) The electrocardiogram (ECG or EKG) is a diagnostic tool that measures and records the electrical activity by electrodes placed on the skin. The electrocardiogram can measure the rate and rhythm of the heartbeat, as well as provide indirect evidence of blood flow to the heart muscle.

92. (B) Chondrichthyes or cartilaginous fishes are jawed fish with paired fins, paired nares, scales, a two-chambered heart, and skeletons made of cartilage rather than bone. The cartilaginous fish are so named because their skeleton is composed of cartilage which is not reinforced by the minerals that make bone. It includes elasmobranchs: sharks, rays and skates etc.

94. (B) The Control Panel is a part of the Microsoft Windows graphical user interface which allows users to view and manipulate basic system settings and controls via applets such as adding hardware, adding and removing software, controlling user accounts and changing accessibility options.

95.(D) The Board of Directors of the NDB approved a USD 350-million loan for the Major District Roads Project II of Madhya Pradesh and USD 175 million for building and upgrading 350 bridges.

New Development Bank (NDB)

- Formation: July 2014 (Treaty signed) + July 2015 (Treaty in force)
- Headquarters: Shanghai, China
- President: K.V. Kamath
- Member Country: 5 Brazil, Russia, India, China, South Africa

97. (B) Text can be aligned with one or both edges of a text frame. Text is said to be justified when it is aligned with both edges. We can justify text in a paragraph including the last line.

98. (A)
- Baby Rani Maurya: Uttarakhand
- Tathagata Roy: Meghalaya
- Satya Pal Malik: Jammu and Kashmir
- Satyadev Narayan Arya: Haryana

99.(C) U.S.-headquartered Facebook has appointed Ajit Mohan as managing director and vice-president of the social networking site's India operations. The post was lying vacant since the exit of Umang Bedi last year.
Facebook
Founded: February 4, 2004 + Headquarters : California, U.S.
Chairman, president, and CEO: Mark Zuckerberg

100. (B) The ABO blood group system is widely credited to have been discovered by the Austrian scientist Karl Landsteiner, who found three different blood types in 1990; he was awarded the Nobel Prize in Physiology or Medicine in 1930 for his work.

101. (B) In 2013 collaboration with U.S.A

$= \frac{64.8}{3600} \times 1200 = 216$

In 2014 collaboration with U.S.A

$= \frac{75.6}{3600} \times 1500 = 315$

$\therefore$ Required difference = 315 – 216 = 99

102. (C) In 2013 $= \frac{50.4}{3600} \times 1200 = 168$

In 2014 $= \frac{43.2}{3600} \times 1500 = 180$

$\therefore$ Required Ratio = 168 : 180
= 14 : 15

103. (B) In 2013 $= \frac{54}{360} \times 1200 = 180$

In 2014 $= \frac{46.8}{360} \times 1500 = 195$

$\therefore$ Required change $= \frac{15}{180} \times 100$

$= 8\frac{1}{3}\%$ increase

104. (D) $x = 3 + 2\sqrt{2}$ and $xy = 1$

$\Rightarrow y = \frac{1}{x} = \frac{1}{3+2\sqrt{2}} = 3 - 2\sqrt{2}$

$\therefore x + y = 3 + 2\sqrt{2} + 3 - 2\sqrt{2} = 6$

Again, $\frac{x^2+3xy+y^2}{x^2-3xy+y^2} = \frac{(x+y)^2+xy}{(x+y)^2-5xy}$

$= \frac{6^2+1}{6^2-5} = \frac{37}{31}$

105. (B) Let speed of boat = x km/hr
speed of current = y km/hr
Downstream speed = $(x + y)$ km/hr
upstream speed = $(x - y)$ km/hr

Condition (i): $\frac{21}{x+y} + \frac{21}{x-y} = 10$ ...(i)

Condition (ii): $\frac{7}{x+y} = \frac{3}{x-y}$

$\Rightarrow \frac{x+y}{x-y} = \frac{7}{3}$, assume $x + y = 7k$,

$(x - y) = 3k$, put values in equation (i)
then, $k = 1$, $x + y = 7$, $x - y = 3$

speed of boat $= \frac{7+3}{2} = 5$ km/h

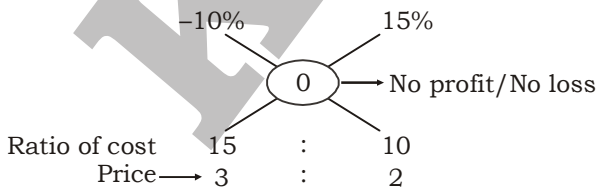
speed of current $= \frac{7-3}{2} = 2$ km/h

106. (D) The ratio of shares of group of men, women and boys
$= 9 \times 4 : 8 \times 5 : 4 \times 6 = 36 : 40 : 24$
Share of 5 women

$= \frac{40}{36+40+24} \times 425 = ₹\ 170$

$\therefore$ the share of 1 woman $= \frac{170}{5} = ₹\ 34$

107. (B) Loss % = –10%, Profit % = 15%
By alligation Rule,



Ratio of cost	15	:	10
Price →	3	:	2

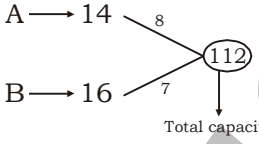
According to the question,
Let CP_1 = 300 units, CP_2 = 200 units

$SP_1 = \frac{300 \times 90}{100} = 270$ units

$SP_2 = \frac{200 \times 115}{100} = 230$ units

Total SP = 270 + 230 = 500 units
500 units = ₹ 30,000
1 unit = ₹ 60
100 units = ₹ 60 × 100 = ₹ 6000
Difference in cost prices = ₹ 6000

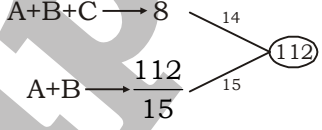
108. (B) A → 14, B → 16, 8, 7, 112, Total capacity



Time required to fill the tank = $\frac{112}{15}$ hr

According to question when leak is open.

Total time (A + B + C) = $\frac{112}{15} + \frac{32}{60} = 8$ hours



Efficiency of leak pipe (C) = 15 – 14
= 1 unit/hr
Required time for pipe C to empty tank

$= \frac{112}{1} = 112$ hr

109. (D) Let initial speed = 15 km/hr

$\left[\because \frac{15 \times 1}{15} = 1\right]$

$\therefore$ Reduced speed = 15 – 1 = 14 km/hr
Time = 30 hours in both case.
$\therefore$ Distance (in case I) = 15 × 30 = 450 km
& Distance (in case II) = 14 × 30 = 420 km
$\therefore$ Difference = 450 – 420 = 30 km
But, the given difference = 10 km
$\therefore 30 \rightarrow 10$

$\Rightarrow 1 \rightarrow \frac{10}{30} = \frac{1}{3}$

$\Rightarrow 15 \rightarrow \frac{1}{3} \times 15 = 5$

i.e., initial speed = 5 km/hr

110. (B) Ist candle → 10 — 9
IInd candle → 9 — 10
90 Total work

ATQ,

$\frac{90-9t}{90-10t} = \frac{2}{1}$

$90 - 9t = 180 - 20t$

$-90 = -11t$

$t = \frac{90}{11} = 8\frac{2}{11}$ hr

111. (A) Let the C.P of article be ₹ x.

$$\text{S.P} = x \times \frac{120}{100} = ₹\ \frac{12x}{10}$$

ATQ,

$$\frac{\left(\frac{12x}{10} \cdot 100\right) - x \cdot 100}{x \cdot 100} \times 100 > 24$$

$$\Rightarrow \left(\frac{12x}{10} \cdot 100 \cdot x, 100\right) \times 100 = 24x - 2400$$

$$\Rightarrow 12x \cdot 10x \times 10 = 24x - 2400$$

$$\Rightarrow 24x - 20x = 2400$$

$$\Rightarrow x = \frac{2400}{4} = ₹\ 600.$$

112. (B) Number of passengers after getting down and getting in at the first station
= 240 – 12 + 22 = 250
Passengers left in the train after the second station

$$= 250 - \frac{1}{5} \times 250 = 200$$

Let x people get down at the third station then
According to the question,

$$200 + 32 - x = 240 \times \frac{80}{100}$$

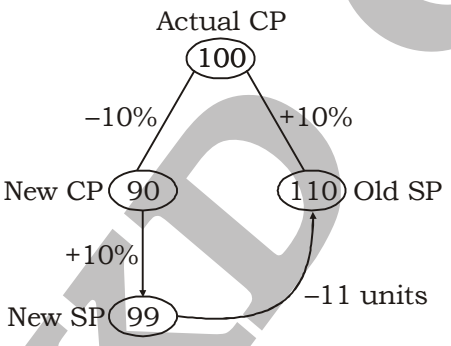
$$232 - x = 192$$

$$x = 40$$

113. (A) Number of votes of the second candidate

$$= \frac{1}{5} \times \left(\frac{9}{10} \times 1,80,000\right) = 32,400$$

114. (B) Let the cost price of the bicycle
= 100 units
ATQ,



11 units = 132

$$1 \text{ unit} = \frac{132}{11} = 12$$

Actual CP (100 units) = 12 × 100 = ₹ 1200

115. (D) A = B + 4000
B = C + 5000
A + B + C = 50,000
B + 4000 + B + B – 5000 = 50000
3B = 51000

$$B = \frac{51000}{3} = 17000$$

$\therefore$ A = 17000 + 4000 = ₹ 21000

Hence in 35000 A gets $\frac{21000}{50000} \times 35000$

= ₹ 14700

116. (C) We may consider that ₹ (1800 – 1650) gives interest of ₹ 30 at 4% per annum.

$$\therefore \text{Time} = \frac{30 \times 100}{150 \times 4} = 5 \text{ years}$$

117. (C) Cost price of an article A = ₹ 160

$$\text{Selling price of A} = 160 \times \frac{120}{100} = ₹\ 192$$

According to the question,
Cost price of B = ₹ 192
Selling price of B = ₹ 240
Profit = 240 – 192 = ₹ 48

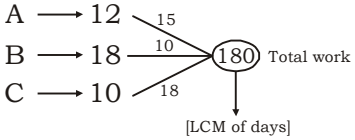
$$\% \text{ Profit} = \frac{48}{192} \times 100 = 25\%$$

118. (C) $\xrightarrow[\text{Bullets}]{} \quad \xleftarrow[\text{Train}]{}$
Distance covered in 45 seconds = 330 × 45 m

$$\text{Required speed} = \frac{330 \times 45}{11 \times 60} \times \frac{18}{5} \text{ km/hr}$$

= 81 km/hr

119. (C) Time taken by A to complete the job
= 12 days
Time taken by B to complete the job
= 18 days
Time taken by C to complete the job
= 10 days



According to question,
Work done by A, B and C in three days
= 43 × 3 = 129 units
Remaining work = (180 – 129) = 51 units
Time taken by B to complete the remaining

$$\text{work} = \frac{51}{10} = 5.1 \text{ days}$$

120. (D) $\frac{4}{3}\pi(r_1^3 + r_2^3 + r_3^3) = \frac{4}{3}\pi(6)^3$

$$\Rightarrow 27 + 64 + r_3^3 = 216$$

$$\Rightarrow r_3^3 = 125$$

$$\Rightarrow r_3 = 5 \text{ cm}$$

121. (A) Runs in the first match = 150

$$\text{Runs in the second match} = \frac{150}{5} \times 6 = 180$$

$$\text{Runs in the third match} = \frac{180}{4} \times 3 = 135$$

Required average = $\frac{150+180+135}{3}$ = 155

122. (A) Let the amount (sum) deposited for the two sons are A and B respectively.
ATQ,

$$A\left(1+\frac{4}{100}\right)^5 = B\left(1+\frac{4}{100}\right)^7$$

$$\frac{A}{B} = \left(1+\frac{4}{100}\right)^2 = \left(\frac{26}{25}\right)^2 = \frac{676}{625}$$

$\therefore$ (676 + 625) units = 2602
1301 units = 2602
1 unit = 2
Amount deposited into the account of 1st son = 676 × 2
= ₹ 1352

123. (C)

	Tiger	:	Deer
leaps taken per minute	5	:	4
Distance covered per leap	8 m	:	5 m
Speed →	40 m/min	:	20 m/min

20 m/min

Both are running in the same direction, so relative speed = (40 – 20) = 20 m/min.
Actual distance between deer and tiger = 50 × 8 = 400 m
Time taken by tiger to overtake deer

= $\frac{400}{20}$ = 20 min

distance travelled by tiger in 20 min = 20 × 40 = 800 m

124. (D) The total cost of truck for a year

= 2,50,000 + $\frac{250{,}000\times 2}{100}$ + 2000

= ₹ 257000
To get a return of 15% he must earn annualy

= $\frac{257000\times 15}{100}$ = ₹ 38550

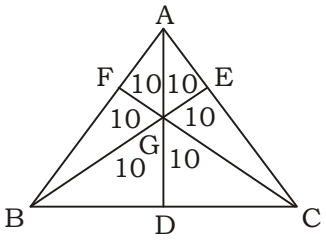
Hence, monthly rent = $\frac{38550}{12}$ = ₹ 3212.50

125. (C) Let no. of new pages be P_2 then,
30 × 25 × 40 = P_2 × 30 × 50

$P_2 = \frac{1000}{50} = 20$
$\Rightarrow P_2$ = 20 pages
So, Required percentage

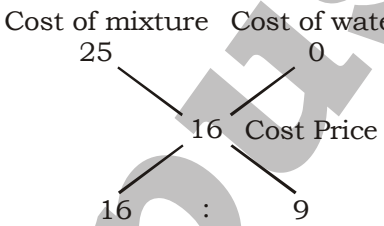
= $\frac{20}{20}$ × 100 = 100%

126. (C)



Total area of ΔABC = 60 cm^2
Hence the area of quadrilateral BDGF will be = 20 cm^2

127. (B) ATQ,
₹ 20 per litre is selling price
so cost price will be = ₹ 16 per liter



So, required ration = 16 : 9

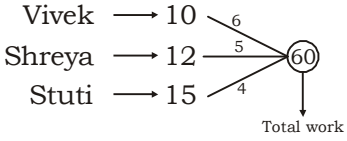
128. (D) C.P. of 100 oranges = ₹ 350
S.P. of 12 oranges = ₹ 48
$\therefore$ S.P. of 100 oranges

= ₹ $\frac{48}{12}$ × 100 = ₹ 400

$\therefore$ profit % = $\frac{400-350}{350}$ × 100

= $\frac{100}{7}$ = $14\frac{2}{7}$% profit

129. (C)

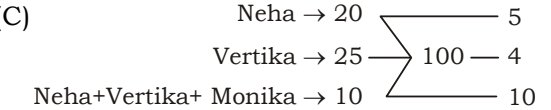


Vivek leaves after 2 days so remaining work = 60 – 12 = 48
and last three days stuti work alone
$\therefore$ Remaining work = 60 – 12 + 15 = 63

$\therefore$ Required time = $\frac{63}{9}$ = 7 days

Total days = 4 + 3 = 7

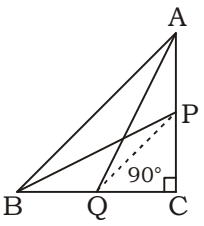
130. (C)



Ratio of their efficiancy i.e, Neha : Vertika : Monika = 5 : 4 : 1
Hence share of monika

$\frac{1}{10}$ × 700 = ₹ 70

131. (D)



$AQ^2 = AC^2 + QC^2$
$BP^2 = BC^2 + CP^2$
$AQ^2 + BP^2 = (AC^2 + BC^2) + (QC^2 + CP^2)$

$\Rightarrow AQ^2 + BP^2 = AB^2 + \left(\frac{BC}{2}\right)^2 + \left(\frac{AC}{2}\right)^2$

$\Rightarrow AQ^2 + BP^2 = AB^2 + \frac{1}{4}(BC^2 + AC^2)$

$\Rightarrow AQ^2 + BP^2 = AB^2 + \frac{1}{4}AB^2$

$\Rightarrow AQ^2 + BP^2 = \frac{5}{4}AB^2$

$\Rightarrow 4(AQ^2 + BP^2) = 5\,AB^2$

132. (B) $10\sin^4A + 15\cos^4A = 6$
$= 10\sin^4A + 15(1 - \sin^2A)^2 = 6$
$\Rightarrow 10\sin^4A + 15 + 15\sin^4A - 30\sin^2A = 6$
$\Rightarrow 25\sin^4A - 30\sin^2A + 9 = 0$
$\Rightarrow 25\sin^4A - 15\sin^2A - 15\sin^2A + 9 = 0$
$\Rightarrow 5\sin^2A(5\sin^2A - 3) - 3(5\sin^2A - 3) = 0$
$\Rightarrow 5\sin^2A - 3 = 0$

$\Rightarrow \sin^2A = \frac{3}{5}$

$\therefore \cos^2A = \frac{2}{5}$

$\therefore 27\text{cosec}^6A + 8\sec^6A$

$= 27 \times \left(\frac{5}{3}\right)^3 + 8 \times \left(\frac{5}{2}\right)^3$

$= 27 \times \frac{125}{27} + 8 \times \frac{125}{8}$
$= 125 + 125 = 250.$

133. (C) Side of the first square = $\sqrt{\text{Area}}$
$= \sqrt{200} = 10\sqrt{2}$ metre
Its diagonal = $\sqrt{2}$ × side
$= 10\sqrt{2} \times \sqrt{2}$
= 20 metre
∴ Diagonal of new square
$= \sqrt{2} \times 20 = 20\sqrt{2}$ metre

∴ Its area = $\frac{1}{2}$ × (diagonal)^2

$= \frac{1}{2} \times 20\sqrt{2} \times 20\sqrt{2}$ m
= 400 sq. metre

134. (D) $x = y$

$\Rightarrow 2t = \frac{2t-1}{3}$
$\Rightarrow 6t = 2t - 1$
$\Rightarrow 4t = -1$

$t = -\frac{1}{4}$

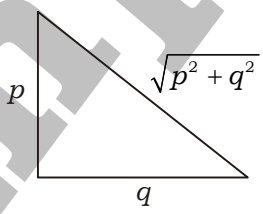
135. (C) L.C.M. of 21, 24, 28 = 168
∴ Required numbers = 168 × 15 = 2520
168 × 16 = 2688 and
168 × 17 = 2856

136. (D) Area of the base = $\frac{\sqrt{3}}{4}$ × (side)^2

$= \frac{\sqrt{3}}{4} \times 6 \times 6 = 9\sqrt{3}$ sq. cm.
∴ volume of the prism
Area of the base × height
$\Rightarrow 108\sqrt{3} = 9\sqrt{3} \times h$

$h = \frac{108\sqrt{3}}{9\sqrt{3}} = 12$ cm

137. (C)



$$\frac{p \times \frac{\sqrt{p^2+q^2}}{q} - q \times \frac{\sqrt{p^2+q^2}}{p}}{p \times \frac{\sqrt{p^2+q^2}}{q} + q \times \frac{\sqrt{p^2+q^2}}{p}}$$

$$= \frac{\frac{p}{q} - \frac{q}{p}}{\frac{p}{q} + \frac{q}{p}} = \frac{p^2 - q^2}{p^2 + q^2}$$

138. (B) $\sin\theta + \text{cosec}\theta = 4$

$\sin\theta + \frac{1}{\sin\theta} = 4$
let $\sin\theta = x$

$x + \frac{1}{x} = 4$
Squaring both sides,

$x^2 + \frac{1}{x^2} + 2 = 16$

$= x^2 + \frac{1}{x^2} = 14$
and $(\sin\theta - \text{cosec}\theta)^2$

$\Rightarrow \left(x \cdot \frac{1}{x}\right)^2 > x^2, \frac{1}{x^2} \cdot 2$

$\Rightarrow (\sin\theta - \cos\theta)^2 = 14 - 2$

$\Rightarrow \sin\theta - \text{cosec}\theta = \sqrt{12} = 2\sqrt{3}$

139. (C) $ax^2 + bx + c = a(x - p)^2$
$ax^2 + bx + c = a(x^2 - 2px + p^2)$
$ax^2 + bx + c = ax^2 - 2apx + ap^2$
On comparison, we get

$b^2 = 4a^2p^2$ and $p^2 = \dfrac{c}{a}$

$p^2 = \dfrac{b^2}{4a^2}$

$\dfrac{b^2}{4a^2} = \dfrac{c}{a}$

$\Rightarrow \boxed{b^2 = 4ac}$

140. (D)

$$3 + \frac{1}{\sqrt{3}} + \frac{1}{\left(3+\sqrt{3}\right)} \times \frac{\left(3-\sqrt{3}\right)}{\left(3-\sqrt{3}\right)} - \frac{1}{3-\sqrt{3}} \times \frac{\left(3+\sqrt{3}\right)}{\left(3+\sqrt{3}\right)}$$

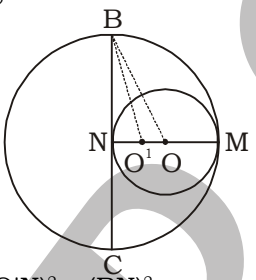
$$= 3 + \frac{1}{\sqrt{3}} + \frac{1}{6}\left(3-\sqrt{3}\right) - \frac{1}{6}\left(3+\sqrt{3}\right)$$

$$= 3 + \frac{1}{\sqrt{3}} + \frac{1}{2} - \frac{\sqrt{3}}{6} - \frac{1}{2} - \frac{\sqrt{3}}{6}$$

$$= 3 + \frac{1}{\sqrt{3}} - \frac{2\sqrt{3}}{6} = 3 + \frac{1}{\sqrt{3}} - \frac{\sqrt{3}}{3}$$

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

141. (A) OM = 4 cm = radius of smaller circle and O'M = 6 cm = radius of bigger circle
$\therefore$ O'N = 8 – 6 = 2 cm
in ΔO'NB,



$(O'B)^2 = (O'N)^2 + (BN)^2$
$\Rightarrow (BN)^2 = 36 - 4 = 32$
$\Rightarrow BN = 4\sqrt{2}$
$\therefore NC = BN = 4\sqrt{2}$
$\therefore BC = 4\sqrt{2} + 4\sqrt{2} = 8\sqrt{2}$ cm

142. (D) $\sin 720° - \cot 270° - \sin 150° \cdot \cos 120°$
$= \sin(2 \times 360° + 0°) - \cot(360° - 90°) - \sin(90° + 60°) \cdot \cos(90° + 30°)$
$= \sin 0° - \cot 92° + \cos 60° \cdot \sin 30°$

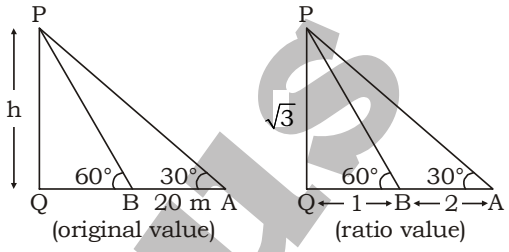
$= 0 - 0 + \left(\dfrac{1}{2} \times \dfrac{1}{2}\right) = \dfrac{1}{4}$

143. (B) Since $1 < x < 2$, we have
$x - 1 > 0$ and
$x - 3 < 0$
or $3 - x > 0$

$\therefore \sqrt{(x-1)^2} + \sqrt{(x-3)^2}$

$= \sqrt{(x-1)^2} + \sqrt{(3-x)^2}$
$= x - 1 + 3 - x$
$= 2$

144. (C)



PQ = Tower = h metre (let)

Ratio value		**Original value**
AB $\rightarrow$ 2	$\longrightarrow$	20
$\therefore$ 1	$\longrightarrow$	10
$\therefore$ $\sqrt{3}$	$\longrightarrow$	$10\sqrt{3}$

i.e. height of the tower = h(ratio value = $\sqrt{3}$)
$= 10\sqrt{3}$ metre.

145. (A) $(3a + 1)^2 + (b - 1)^2 + (2c - 3)^2 = 0$
On comparison, we get
$(3a + 1) = 0 \Rightarrow 3a = -1$
$(b - 1) = 0 \Rightarrow b = 1$
$(2c - 3)^2 = 0 \Rightarrow 2c = 3$
Now, $(3a + b + 2c) = -1 + 1 + 3 = 3$

146. (A) Difference between C.I. & S.I. for 2 years at 5% rate = (10.25% – 10) = 0.25%
0.25% of ₹ 4000 = ₹ 10

147. (A) 3 : 2

148. (B) Avarage Demand

$$= \frac{3000 + 600 + 2500 + 1200 + 3300}{5}$$

= 2120
Avarage Production

$$= \frac{1500 + 1800 + 1000 + 2700 + 2200}{5}$$

= 1840
$\therefore$ Required diff = 2120 – 1840 = 280

149. (C) Required percentage = $\dfrac{2700}{1500} = 1.80$

150. (A) Required percentage

$= \dfrac{600}{2500} \times 100 = 24\%$

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Advance	To develop further	तरक्की करना
Ascetic	A person who lives in a simple and strict way, without physical pleasures, especially for religious reasons	संन्यासी
Celibacy	The state of not being married and never having sex, especially for religious reasons	ब्रह्मचर्य
Chivalrous	Polite, kind and behaving with honour, especially towards women	शिष्ट, उदार
Companionship	The state of being with someone	भाईचारा
Cope with	To deal with, to handle	सामना करना
Cramped	Constricted in size	तंग
Cut out	Delete or remove	काटकर निकाल देना
Decisive	Determining or having the power to determine an outcome	निर्णायक
Defer	To delay something until a later time	टालना
Discourse	Extended verbal expression in speech or writing	भाषण, संवाद
Disparity	Inequality or difference in some respect	विषमता, असमानता
Enigmatic	Mysterious and difficult to understand	रहस्यमय, गूढ़
Epicure	A person who enjoys food and drink of high quality and knows a lot about it	स्वादलोलुप व्यक्ति
Erratic	Not happening at regular times; not following any plan or regular pattern	अनियमित
Gallant	Brave, especially in a very difficult situation	साहसी
Gumption	Courage and determination	साहस
Indolence	Inactivity resulting from a dislike of work	सुस्ती
Isolation	The state of being alone or lonely	अलगाव
Metaphor	A figure of speech in which an expression is used to refer to something that it does not literally denote in order to suggest a similarity	उपमा
Obstinacy	Resolute adherence to your own ideas or desires	जिद, हठ
Parsimony	The fact of being extremely unwilling to spend money	मितव्ययता
Philology	The humanistic study of language and literature	भाषाशास्त्र
Placid	In a calm and good-natured manner	शांतिपूर्वक
Rail	To complain about something/somebody in a very angry way	निंदा करना
Reap	To cut and collect a crop	फसल एकत्र करना, अनाज काटना
Refutable	Able to be proved wrong by argument or evidence	खण्डनीय
Remorse	A feeling of deep regret (usually for some misdeed)	पश्चाताप
Savvy	Practical knowledge or understanding of something	व्यावहारिक ज्ञान
Smite	To hit somebody/something hard; to attack or punish somebody	दण्ड देना, प्रहार करना
Sophism	An argument apparently correct in form but actually invalid; especially such an argument used to deceive	कुतर्क
Speck	A very small spot; a small piece of dirt, etc	दाग
Stuck up	Overly conceited or arrogant	घमंडी
Sullen	Bad-tempered and not speaking	चिड़चिड़ा
Topography	The configuration of a surface and the relations among its man-made and natural features	भौगोलिक स्थिति
Topple	Fall down, as if collapsing	लुढ़क जाना
Underscore	To emphasize (something) or show the importance of (something)	जोर देना
Utter	To make a sound with your voice; to say something	बोलना
Wander	Move about aimlessly or without any destination	भटकना
Welter	A confused multitude of things	घालमेल

CPO MOCK TEST - 33 (ANSWER KEY)

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

151. (B) Replace 'for' by 'on'.

152. (C) Conjunction 'not only' is followed by 'but also'. Thus, remove 'as well' as it makes it superfluous.

153. (B) 'Many a' is singular in nature. Hence, it takes singular verb, and singular noun after it. Thus, replace 'are' by 'is'.

154. (A) Since an action has already started (learning english) and still going on comes under present perfect continuous tense. Thus, replace 'am' by 'have been'.

155. (B) Use 'mile' instead of 'miles'. Here, plural number has been used as a singular unit (a two-mile race).

156. (C) 'Stand by somebody' means 'to help somebody or be friends with them, even in difficult situations.'

157. (D) If a motor or an engine **cuts in**, it starts working.

158. (A) Since we are talking about the **disparity** present in two different section of the society, it will take 'between'.

161. (B) 'Touch on/upon something' means 'to mention or deal with a subject in only a few words, without going into detail'.

162. (A) 'With a view to' takes 'v_1 + ing' after it.

167. (D) 'pass off' means '(of an event) to take place and be completed in a particular way'.