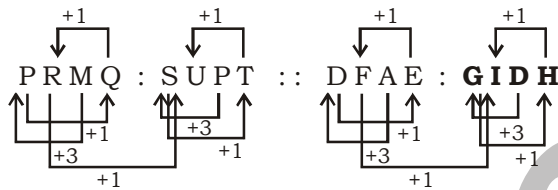


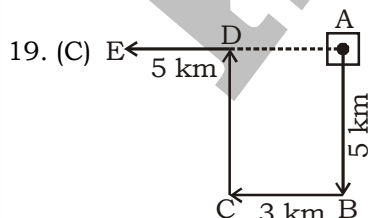
CPO MOCK TEST – 30 (SOLUTION)

1. (B) By adding the suffix ‘-ly’, the word form may be changed to an adverb and by adding the suffix ‘-ful’, the word form may be changed to an Adjective.
2. (C) ‘Fe’ is the chemical symbol for Iron and ‘Ag’ is the chemical symbol for silver.
3. (D) Warm is less intense than hot and Amusing is less intense than hilarious.
4. (A) Careful is a synonym for Alert and Meek is synonym for Subservient.
5. (B) To mount means to get on a horse and to board means to get on a train.
6. (B) A tureen is used to hold soup and a goblet is used to hold wine.
7. (D) Denim is a fabric made from cotton and linen is a fabric made from flax.
8. (A) ‘Son’ is a homophone for ‘sun’ and ‘so’ is a homophone for ‘sew’.
9. (A) Number of vowels in Merry Christmas = 3 and $3^2 = 09$
Number of vowels in Happy New Year = 4 and $4^2 = 16$

10. (B)



11. (D) Except first letter move 3 step forward and second letter forward.
12. (B) Except Nagpur, rest are the capital cities.
13. (C) In (C) we can find five pointed star where as the other stars are all six pointed.
14. (C) X, V and H are all symmetrical about a vertical line.
15. (C) Except girlfriend, rest are males.
16. (A) Except (A), In rest of the options, vowel is followed by consonant repeated twice.
17. (B) Except Q, all other letters occupy the even number position in English alphabet i.e.. H = 8, Q = 17, T = 20, Z = 26.
18. (B) Except 46, rest of the options are the difference between the cube and square of a number.
 $8^3 - 8^2 = 512 - 64 = 448$
 $12^3 - 12^2 = 1782 - 144 = 1584$
 $2^3 - 2^2 = 8 - 4 = 4$
 $4^3 - 4^2 = 64 - 16 = 48 \neq 46$



$$AE = AD + DE$$

$$= (3 + 5) \text{ kms} = 8 \text{ kms}$$

20. (C) $27 = 3 \times 3 \times 3$

Two years ago
 $27 - 2 = 25 = 5 \times 5$
Next perfect cube number
 $64 = 4 \times 4 \times 4$
 $\therefore 64 - 27 = 37 \text{ years}$

So, he should wait for another 37 years.

21. (A)

G	E	R	M	A	N	Y
↓	↓	↓	↓	↓	↓	↓
7	5	18	13	1	14	25

Therefore,

F	R	A	N	C	E
↓	↓	↓	↓	↓	↓
6	18	1	14	3	5

22. (A) $yzy/xzx/yzy/xzx/yzy/xzx/y$

23. (A) $(40 \times 30)/100 = 1200/100 = 12$

$$(60 \times 50)/100 = 3000/100 = 30$$

$$(80 \times 60)/100 = 4800/100 = 48$$

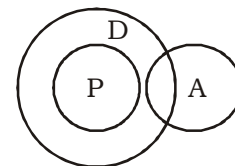
24. (B) $\frac{7 \times 4}{2} = 14$ $\frac{9 \times 8}{3} = 24$ $\frac{10 \times 6}{4} = 15$

25. (D) $93 - (27 + 3) = 63$

$$79 - (38 + 4) = 37$$

$$\therefore 67 - (16 + x) = 42 \Rightarrow x = 9$$

26. (A)



1. True 2. False

27. (C) Let varun's current age be x

Then, Varun's age after 1 year

$$= (x + 1) \text{ years.}$$

ATQ,

$$x + 1 = 2(x - 12) \Rightarrow x + 1 = 2x - 24$$

$$\Rightarrow 2x - x = 25$$

$$\Rightarrow x = 25.$$

28. (B) Meaningful order of words in ascending order

2. Daily



1. Weekly



4. Fortnightly

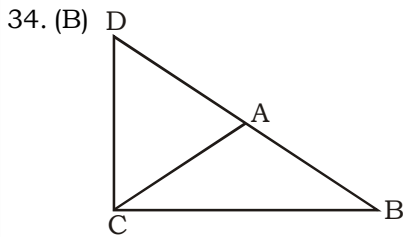
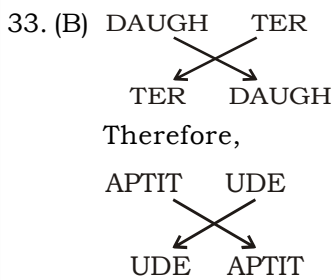


3. Monthly



5. Bimonthly

29. (C) $P = Q$
 $S > R > T > P = Q$
 S is the eldest.
30. (D) There is only one 'E' in the given word. Therefore, the word RELATE cannot be formed.
31. (D) $(3)^2 = 9$ $(4)^2 = 16$
 $(5)^2 = 25$ $(6)^2 = 36$
 $(7)^2 = 49$ $(8)^2 = 64 \neq 61$
32. (B) Only son of Neha grand father means father of Neha. Therefore, Neha is sister of Vivek.



So, with reference to A, B is located in South-East direction.

35. (B) $15 \times 5 \div 3 = 25$
 $LHS = \frac{15 \times 5}{3} = 25 = RHS$

36. (C)

Number of dots on top face	•	••	•••
Number of dots on bottom face	•	•••	••••

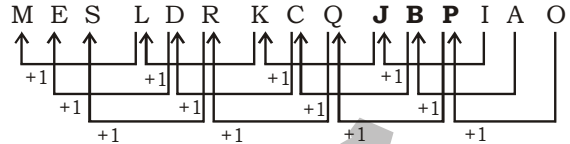
So, we can find 3 points opposite to the face with 4 points.

37. (D) Let salary = ₹ x , then tips = ₹ $\left(\frac{5}{4}x\right)$.
 Total income = ₹ $\left(x + \frac{5}{4}x\right) = ₹ \left(\frac{9x}{4}\right)$.
 \therefore Required fraction = $\left(\frac{5x}{4} \times \frac{4}{9x}\right) = \frac{5}{9}$.

38. (A) F3M → F is the wife of M
 M5K → M is the father of K
 \therefore F is the mother of K = **F3M5K**

39. (D) The digits are removed one by one from the beginning and the end in order alternately so as to obtain the subsequent terms of the series.
 So, ? = 96542

40. (D)

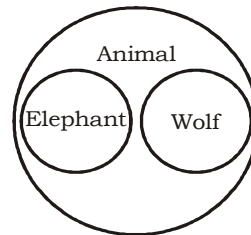


41. (D) $I \xrightarrow{+4} M \xrightarrow{+4} Q \xrightarrow{+4} U$
 $P \xrightarrow{+3} S \xrightarrow{+3} V \xrightarrow{+3} Y$
 $M \xrightarrow{+2} O \xrightarrow{+2} Q \xrightarrow{+2} S$
 $D \xrightarrow{+1} E \xrightarrow{+1} F \xrightarrow{+1} G$

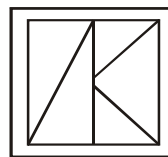
42. (B) $(2)^2 = 4$.
 $(2 + 4)^2 = (6)^2 = 36$
 $(6 + 6)^2 = (12)^2 = 144$
 $(12 + 8)^2 = (20)^2 = 400$
 $(20 + 10)^2 = (30)^2 = 900$
 $(30 + 12)^2 = (42)^2 = 1764$

43. (B) 2 10 30 68 130
 $+8$ $+20$ $+38$ $+62$
 $+12$ $+18$ $+24$
 $+6$ $+6$

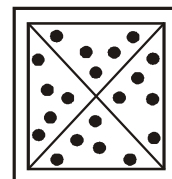
44. (A) A has advised B about the route to Jammu. This means that B wishes to go to Jammu. So, I is implicit. The statement mentions only A's advice to B. So, II is not implicit.
45. (A) Elephant is different from Wolf. But both are animals.



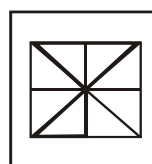
46. (C)



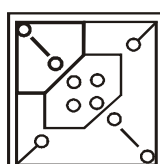
47. (C)



48. (B)



49. (D)



50. (A)
51. (D) It was in the Lahore session of December 1929 that the Congress passed the Poorna Swaraj resolution. It was the same session in which Jawaharlal Nehru was elected as president of the Congress. The Declaration of Independence was officially promulgated on 26th January 1930.
53. (D) An uninterruptable power supply (UPS) is a backup power supply, such as a battery that provides emergency power in the event when power is lost from the main supply
55. (A) Neon lighting runs at a high voltage, typically above 1000 Volts. A fireman's switch protects a fireman from receiving a shock when a water jet is sprayed on to the installation. The switches are red, and mounted in a conspicuous position. (This is specified by IEE Regulations (Europe), SANS (South Africa), UK Electricity regulations and many Asian countries.
56. (A) The Sahara is the largest subtropical hot desert and third largest desert after Antarctica and the Arctic. At over 9,400,000 square kilometres, it covers most of North Africa.
57. (B) Twisting the yoke will tilt the picture. A projection colour television uses three picture tubes and yokes for red, green and blue light.
58. (A) Aloe vera is one of oldest and most well known plants when it comes to medicinal and beauty benefits. It is widely used in the cosmetics and alternative medicine industries, being marketed as variously having rejuvenating, healing, or soothing properties.
59. (B) The word 'laser' is actually an acronym for light amplification by stimulated emission of radiation. Atoms or molecules of the active medium that have been excited to a higher energy level are stimulated by a passing photon to relax to a lower energy level and emit a photon that is indistinguishable from the passing photon, thereby increasing the number of photons like the incident one.
60. (B) According to RBI data, Mauritius remained the top source of foreign direct investment (FDI) into India in 2017-18. While FDI from Mauritius Totalled \$1(C)41 billion as against \$1(C)38 billion in the previous year, inflows from Singapore rose to \$9.27 billion from \$6.52 billion.
62. (D) In 1994, the UN General Assembly proclaimed 16th September as the International Day for the Preservation of the Ozone Layer, commemorating the date of the signing, in 1987, of the Montreal Protocol on Substances that Deplete the Ozone Layer.
64. (D) The highest peak of the Eastern Ghats are Jindhra Gada (1690 metres), Arma Konda (1680 m), Gali Konda (1643 m) and Sinkram Gutta (1620 m). Mahendragiri is situated in the Elephant Head and it is the tallest peak of the Western Ghats. Javadi and Shevaroy are low mountain ranges in the Eastern Ghats.
67. (C) Perfectly competitive firms are free to enter and exit an industry. They are not restricted by government rules and regulations, start-up cost, or other barriers to entry. Like perfect competition, free entry and exit of firms is possible under monopolistic competition.
68. (C) *Vibrio cholera* (also *Kommabacillus*) is a gram negative comma-shaped bacterium with a polar flagellum that causes cholera in humans.
69. (D) The Din-i-Ilahi (Religion of God) was a syncretic religion propounded by Akbar in 1582 AD. It drew inspiration from Islam and Hinduism, but some elements were also taken from Christianity, Jainism and Zoroastrianism.
70. (A). Lewis Mercedes' British Driver Lewis Hamilton has won the Italian Grand Prix title.
- 2nd position is Kimi Raikkonen.
 - 3rd position is Valtteri Bottas .
- Lewis Hamilton:-**
- Born: 7 January 1985 (age 33 years), Stevenage, United Kingdom
 - First win: 2007 Canadian Grand Prix
 - 2018 team: Mercedes
 - 2018 position: 1st (25 pts)
71. (B) Graphite is used as pencil 'lead'. As the pencil moves across the paper, layers of graphite rub off. Graphite is also used as a lubricant, and as an electrode in electrolysis. For example, it is used in the manufacture of aluminium.
72. (C) Excise duty is a tax on manufacture or production of goods. Excise duty on alcohol, alcoholic preparations, and narcotic substances is collected by the State Government and is called "State Excise" duty. The Excise duty on rest of goods is called "Central Excise" duty and is collected in terms of Section 3 of the

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- Central Excise Act, 1944. Sales Tax is different from the Excise duty as former is a tax on the act of sale while the latter is a tax on the act of manufacture or production of goods.
73. (C) Sachin Tendulkar, Sunil Gavaskar and Vijay Hazare are all related to cricket. Narain Karthikeyan is the first Formula One sports person from India.
75. (D) Soda ash is a white, anhydrous, powdered or granular material containing more than 99% Sodium Carbonate (Na_2CO_3). Pure Sodium Carbonate is hygroscopic (absorbs moisture from the air), has an alkaline taste and forms a strongly alkaline water solution.
78. (A) Plants excrete oxygen, carbon dioxide and water vapour. These gaseous waste products are got rid of by diffusion through the stomata and lenticels. The oxygen is a waste product of photosynthesis while carbon dioxide is produced in the process of respiration.
80. (A). Former Maharashtra football player Arthur Pereira has passed away recently. He was 70.
82. (C) Water is a good solvent due to its high polarity. The solvent properties of water are vital in biology, because many biochemical reactions take place only within the aqueous solutions.
83. (B) London is situated on the banks of River Thames which is the longest river entirely in England and the second longest in the United Kingdom.
84. (D) Christopher Cockerell invented the hovercraft in 1956. His early experiments with the idea involved a cat food tin, a coffee tin and an industrial blower.
85. (B) The IEEE (Institute of Electrical and Electronics Engineers) was formed in 1963 by the merger of the Institute of Radio Engineers (IRE, founded 1912) and the American Institute of Electrical Engineers (AIEE, founded 1884).
86. (D) Acetylene is an inflammable gas which triggers artificial ripening process in fruits. Usually fruits produce ethylene gas and a plant hormone that naturally lead to their ripening.
89. (C). Bi-annual talks between Indian and Bangladeshi border forces has been started in New Delhi. This is the 47th DG-level conference between the two sides since it began in 1975.
91. (B) The Right of Children of Free and Compulsory Education Act, enacted on 4 August 2009 which provides free and compulsory education for children between 6 and 14 in India under Article 21 a of the Indian Constitution.
94. (C) Devaluation in modern monetary policy is a reduction in the value of a currency with respect to those goods, services or other monetary units with which that currency can be exchanged. It means official lowering of the value of a country's currency within a fixed exchange rate system.
99. (C) Atal Bihari Vajpayee was the first Prime Minister to deliver his speech in the United Nations in Hindi on September 25, 2003. The incumbent Prime Minister Narendra Modi also delivered his speech at the UN General Assembly in New York in Hindi on 27th September 2014.
100. (D). India and Cyprus agreed for the revision in the Double Taxation Avoidance Agreement (DTAA) made in 2016 to further enhance investment partnership to grow by strengthening the institutional framework to facilitate investment cross flows.
101. (A) $18W \times 12d = 12M \times 9d$
 $\Rightarrow 2W = 1M$
 $\Rightarrow M : W = 2 : 1$
 Now, $(8M + 8W) \times xd = 18W \times 12d$
 $\Rightarrow (8 \times 2 + 8 \times 1) \times x = 18 \times 1 \times 12$
 $\Rightarrow x = \frac{18 \times 12}{24} = 9$ days
102. (D) $\frac{1}{2} : \frac{1}{4} : \frac{5}{16}$
 $\frac{8}{16} : \frac{4}{16} : \frac{5}{16}$ (L.C.M. of denominator 2, 4 and 16 is 16)
 Hence ratio is 8 : 4 : 5
 Difference between the biggest and the smallest is $8x - 4x = 4x$
 Now, $8x + 4x + 5x = 68000$
 $\Rightarrow 17x = 68000$
 $\therefore 4x = \frac{68000 \times 4x}{17x} = ₹ 16000$
103. (A) Let the cost of one table be ₹ x and cost of one book be ₹ y .
 ATQ,
 $-12\% \text{ of } x + 19\% \text{ of } y = 160$... (i)
 $12\% \text{ of } x - 16\% \text{ of } y = -40$... (ii)
 Adding equation (i) and (ii), we get,
 $3y = 120 \times 100$
 $\Rightarrow y = \frac{120 \times 100}{3} = ₹ 4000$
104. (C) Total income = ₹ 7800
 10% of A = 15% of B = 20% of C
 If 5% = 1

then, $2A = 3B = 4C$

L.C.M = 12

A : B : C

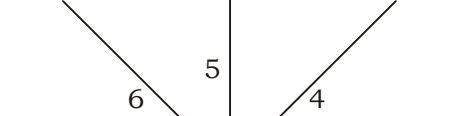
$\frac{12}{2} : \frac{12}{3} : \frac{12}{4}$

A : B : C = 6 : 4 : 3 \Rightarrow Total = 13 units

B's income = $\frac{4}{13} \times 7800 = ₹ 2400$

105. (A)

A	B	C
(10 days)	(12 days)	(15 days)



Total work = 60 units

First 2 days work = $2(6 + 5 + 4) = 30$ units ... (i)

Last 3 days work done by C only = $4 \times 3 = 12$ units ... (ii)

Remaining work = $60 - (30 + 12) = 18$ units
Now, it is done by B and C only

Time taken = $\frac{18}{9} = 2$ days ... (iii)

From (i), (ii) & (iii)
= $2 + 3 + 2 = 7$ days

106. (C)

30 kms

2:30 p.m 3 p.m

Thief's speed = 60 km/hr
Speed of car owner = 75 km/hr

\therefore Meeting Time = $\frac{30}{75 - 60} = 2$ hrs

\therefore Police will catch the thief at 3 p.m. + 2 hrs = 5 p.m

107. (A) Required number of poles = $\frac{\text{Perimeter}}{\text{Distance between any two adjacent poles}} - 1$

= $\frac{84}{1.5} - 1 = 55$ poles

108. (C) Let the loss incurred is ₹ x when it is sold for ₹ 275.

and profit earned is ₹ 20x when it is sold for ₹ 800.

ATQ,
 $800 - 20x = 275 + x$

$\Rightarrow 21x = 800 - 275$

$\Rightarrow 21x = 525$

$\Rightarrow x = 25$

\therefore Selling price to make a profit of 25%

= $(275 + 25) \times \frac{125}{100}$

= $300 \times \frac{125}{100} = ₹ 375$

109. (D) From the given options, the least number which divide 200 and 320 is 20.

110. (B) $\frac{(0.75)^3 + (1 - 0.75)[1^2 + (0.75)^2 + 1 \times 0.75]}{(1 - 0.75)}$

= $\frac{(0.75)^3 + 1^3 - (0.75)^3}{0.25}$

= $\frac{1}{0.25} = \frac{100}{25} = 4$

\therefore Square root of 4

= $\sqrt{4} = 2$

111. (C) $\frac{9}{4} = \left(1 + \frac{r}{100}\right)^2$

$\Rightarrow \frac{3}{2} - 1 = \frac{r}{100}$

$\Rightarrow r = 50\%$

112. (A) C.P = $\frac{2400}{125} \times 100 = ₹ 1920$

Profit % = $\frac{(2040 - 1920)}{1920} \times 100$

= $\frac{120 \times 100}{1920} = 6.25\%$

113. (A) Let fraction be = $\frac{x}{y}$

ATQ,

$\frac{x \times 300}{y \times 500} = \frac{21}{20}$

$\therefore \frac{x}{y} = \frac{21}{20} \times \frac{5}{3} = \frac{7}{4} = 1 \frac{3}{4}$

114. (B)

A	B
125000	85000
25	17

8 units = ₹ 300

$\therefore 42$ units = $\frac{300}{8} \times 42$

= ₹ 1575 which is 40% of total profit.

Total profit = $\frac{100 \times 1575}{40} = ₹ 3937.50$

115. (D) Wages of 300 boys for 1 day = ₹ 9000

Wages of 1 boy for 1 day = $\frac{9000}{300} = ₹ 30$

Now, wage of 1 man = $\frac{3}{2}$ wage of 1 boy

= $\frac{3}{2} \times 30 = ₹ 45$

Now, no. of men required to earn ₹ 13500

= $\frac{13500}{30 \times 45} = 10$ men

116. (A) Time taken, if travels by air only = 2 hr.

\therefore Speed by air = 180 kms/hr.

Time saved = 2 hours which is $\frac{4}{5}$ th of the time taken by the train,
The time taken by train = 2.5 hrs

$$\left(\frac{4}{5}\right)^{\text{th}} T_{\text{train}} = 2, T_{\text{train}} = \frac{5 \times 2}{4} = 2.5 \text{ hrs}$$

Travels by air = 1.5 hrs = 270 kms.

(In 1 hr = 180 kms.)

∴ In 1.5 hrs = 270 kms.

∴ distance travelled by train = 360 - 270 = 90 kms

117. (C) He spends = 40% + 20% + 50% of

$$\text{remaining} = 40\% + 20\% + \frac{50}{100} \times 40\%$$

$$40\% + 20\% + 20\% = 80\%$$

savings = 20%

$$10\% = ₹ 450$$

$$100\% = ₹ 4500$$

118. (D) Hike in price = $110 \times \frac{10}{100} = ₹ 11$

$$\therefore \text{New price per kg} = \frac{11}{2} = 5\frac{1}{2} \text{ per kg}$$

$$\therefore \text{original price} = \frac{11}{2 \times 110} \times 100$$

$$= ₹ 5 \text{ per kg}$$

119. (B) A = + 8 hrs. +5
40
 B = - 5 hrs. -8

Now, $\frac{3}{4}$ of 40 = 30 hrs.

Now, cistern will be emptied if both pipes

are opened together = $\frac{30}{3} = 10$ hours.

120. (B) Coins ₹ 1 50p 25p
 No. 3 8 20
 Value 3 4 5
 Now, 3 + 4 + 5 = 12 ≡ ₹ 376 (Given)

$$\therefore 1 \equiv \frac{372}{12} = 31$$

$$\therefore \text{Total coins} = (3 + 8 + 20) \times 31 = 961$$

121. (B) $\frac{P \times 6 \times 2\%}{100} = 720$

$$P = ₹ 6000$$

122. (A) $1 \times 3 \times 5 \times 7 \times \dots \times 99 \times 2^7$.

For calculating number of zeroes we have to find the combination of 2 and 5. Here no. of 2's are 7 so the max possible zeroes is 7.

123. (A) Total no. of valid votes

$$= 1,80,000 \times \frac{90}{100} = 1,62,000$$

No. of valid votes received by second

$$\text{candidate} = 162000 \times \frac{20}{100} = 32400$$

124. (C) $P_1(100 + 10 \times 2) = P_2(100 + 10 \times 4) = P_3(100 + 10 \times 5)$

$$P_1 : P_2 : P_3 = \frac{1}{120} : \frac{1}{140} : \frac{1}{150} = 35 : 30 : 28$$

$$P_1 = \frac{35}{93} \times 18600 = ₹ 7000$$

$$P_2 = \frac{30}{93} \times 18600 = ₹ 6000$$

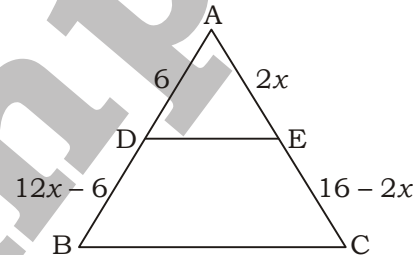
$$P_3 = \frac{28}{93} \times 18600 = ₹ 5600$$

125. (B) Let the original volume of cylinder is 100

$$\text{then, } 100 \times \frac{50}{100} \times \frac{50}{100} \times \frac{160}{100} = 40$$

$$\text{Hence decrease} = 100 - 40 = 60\%$$

126. (A) DE || BC



$$\Rightarrow \frac{AD}{DB} = \frac{AE}{EC} \quad (\because DE \parallel BC)$$

$$\Rightarrow \frac{6}{12x - 6} = \frac{2x}{16 - 2x}$$

$$\Rightarrow \frac{1}{2x - 1} = \frac{x}{8 - x}$$

$$\Rightarrow 8 - x = 2x^2 - x$$

$$\Rightarrow x^2 = 4$$

$$\therefore x = 2$$

127. (A) From componendo and dividendo,

$$\frac{(x^3 + 3x) + (3x^2 + 1)}{(x^3 + 3x) - (3x^2 + 1)} = \frac{189 + 61}{189 - 61}$$

$$\text{or, } \frac{(x+1)^3}{(x-1)^3} = \frac{250}{128} = \frac{125}{64}$$

$$\text{or, } \left(\frac{x+1}{x-1}\right)^3 = \left(\frac{5}{4}\right)^3$$

$$\text{or, } \frac{x+1}{x-1} = \frac{5}{4}$$

By Solving, $x = 9$

128. (A) Let radius of circular garden is R.

$$\text{circumference of garden} \\ 2\pi R = 1012 \text{ m}^2$$

$$R = \frac{1012}{2\pi} \text{ m}$$

$$= \frac{1012 \times 7}{2 \times 22} \text{ m} = 161 \text{ m}$$

Outer radius of circular path
= 161 + 3.5 = 164.5 m

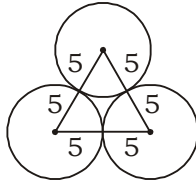
Area of path = $\pi(164.5)^2 - \pi(161)^2$
= $\pi \times 325.5 \times 3.5$
= 3580.50 m²

∴ Cost of gravelling
= 3580.5 × 0.32
= ₹ 1145.76

129. (C) $\sin \theta + \frac{1}{\sin \theta} = \frac{7}{2\sqrt{3}} = \frac{\sqrt{3}}{2} + \frac{2}{\sqrt{3}}$

So, $\sin \theta = \frac{\sqrt{3}}{2} \Rightarrow \theta = 60^\circ$

130. (D)



$$= \frac{\sqrt{3}}{4} \times 100 - \frac{22}{7} \times 25 \times \frac{180}{360}$$

$$\left(\sqrt{3} - \frac{22}{7} \times \frac{1}{2} \right) \times 25$$

$$(1.732 - 1.571) \times 25$$

$$(0.161) \times 25 = 4.025 \text{ cm}^2$$

131. (C) $\left(x + \frac{1}{x} \right)^2 = x^2 + \frac{1}{x^2} + 2$

$$\Rightarrow \left(x + \frac{1}{x} \right)^2 = p + 2$$

$$\Rightarrow x + \frac{1}{x} = \sqrt{p+2}$$

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

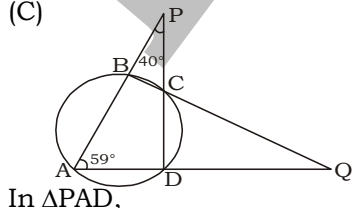
$$= \left(\sqrt{p+2} \right)^3 - 3 \left(\sqrt{p+2} \right)$$

$$= \left(\sqrt{p+2} \right) \left(\left(\sqrt{p+2} \right)^2 - 3 \right)$$

$$= \left(\sqrt{p+2} \right) (p+2-3)$$

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

132. (C)



In ΔPAD ,

$$\angle PDA = 180^\circ - (59^\circ + 40^\circ) = 81^\circ$$

In cyclic quadrilateral BCDA,
 $\angle ABC + \angle CDA = 180^\circ$

$$\Rightarrow \angle ABC + \angle CDA = 180^\circ$$

$$\Rightarrow \angle ABC = 180^\circ - 81^\circ = 99^\circ$$

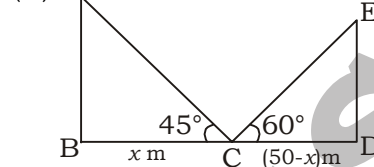
Now, In ΔBAQ ,

$$\angle BAQ + \angle AQB + \angle ABQ = 180^\circ$$

$$\Rightarrow 59^\circ + \angle AQB + 99^\circ = 180^\circ$$

$$\Rightarrow \angle AQB = 180^\circ - 58^\circ = 22^\circ$$

133. (D) A



In ΔABC ,

$$\tan 45^\circ = \frac{AB}{BC}$$

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

$$AB = x \text{ m} = ED \dots (i)$$

In ΔEDC ,

$$\tan 60^\circ = \frac{ED}{CD}$$

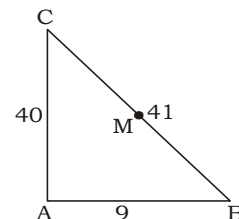
$$\Rightarrow \sqrt{3} = \frac{x}{50-x}$$

$$50\sqrt{3} - x\sqrt{3} = x$$

$$\Rightarrow x = \frac{50\sqrt{3}}{(1+\sqrt{3})} \text{ m}$$

134. (B) ∴ $9^2 + 40^2 = 81 + 1600 = 1681 = 41^2$

∴ Given triangle is right angled.



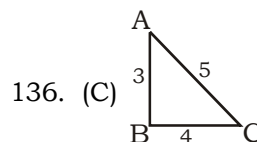
If $AB = 9$, $AC = 40$ and $BC = 41$ then A is orthocentre and mid point of hypotenuse BC is circumcentre of the triangle.

∴ $AM = BM = CM =$ radius of circumcircle.

$$\text{or, } AM = \frac{41}{2} = 20.5 \text{ cm}$$

135. (A) $x^4 + y^4 - 2x^2y^2 = (x^2 - y^2)^2 = ((x+y)(x-y))^2$

$$= \left(2\sqrt{a} \cdot \frac{2}{\sqrt{a}} \right)^2 = 16$$

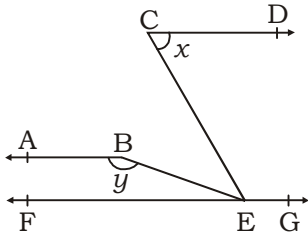


$$\therefore \sin \rho = \frac{3}{5} \text{ (given)}$$

$$\sec \rho = \frac{h}{b} = \frac{5}{4} \text{ and } \tan \rho = \frac{3}{4}$$

$$\text{then, } \sec \rho - \tan \rho = \frac{5}{4} - \frac{3}{4} = \frac{1}{4} = 0.25$$

137. (D)



FG || AB || CD is drawn through point E.

$$\angle CEG = (\pi - x)$$

$$\angle BEF + \angle BEC + \angle CEG = \pi$$

$$\pi - y + \angle BEC + \pi - x = \pi$$

$$2\pi - x - y + \angle BEC = \pi$$

$$\therefore \angle BEC = x + y - \pi$$

138. (C) From first two ratio,

$$8(5x - 7y + 10) = 1(3x + 2y + 1)$$

$$\text{or, } 37x - 58y = -79 \quad \dots(i)$$

From first and third ratio,

$$9(5x - 7y + 10) = 1(11x + 4y - 10)$$

$$\text{or, } 45x - 63y + 90 = 11x + 4y - 10$$

$$\text{or, } 34x - 67y = -100 \quad \dots(ii)$$

From, (i) - (ii), $3x + 9y = 21$

$$\text{or, } x + 3y = 7 \quad \dots(iii)$$

putting, $x = 7 - 3y$ in (i),

$$37(7 - 3y) - 58y = -79$$

$$\text{or, } 259 - 111y - 58y = -79$$

$$\text{or, } 338 = 169y$$

$$\text{or, } y = 2$$

Again from (iii), $x + 6 = 7$

$$\Rightarrow x = 1$$

$$\therefore x + y = 1 + 2 = 3$$

139. (A) $\sin \theta - \cos \theta = \frac{7}{13}$

squaring both side

$$(\sin \theta - \cos \theta)^2 = \frac{49}{169}$$

$$1 - 2 \sin \theta \cdot \cos \theta = \frac{49}{169}$$

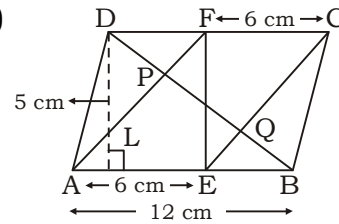
$$2 \sin \theta \cdot \cos \theta = \frac{120}{169}$$

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

$$\Rightarrow (\sin \theta + \cos \theta)^2 = 1 + \frac{120}{169} = \frac{289}{169}$$

$$\Rightarrow \sin \theta + \cos \theta = \frac{17}{13}$$

140. (D)



Area of quadrilateral PQCF

$$= \frac{1}{2} (\text{area of quadrilateral AECF})$$

$$= \frac{1}{2} (2 \times \text{area of } \triangle AEF)$$

$$= \frac{1}{4} \times \text{area of quadrilateral ABCD}$$

$$= \frac{1}{4} \times 12 \times 5 = 15 \text{ cm}^2$$

141. (A) Let $t = \sqrt{x} + \frac{1}{\sqrt{x}}$

$$\text{then, } t^2 = x + \frac{1}{x} + 2$$

$$\Rightarrow t^2 = 2 + \sqrt{3} + \frac{1}{2 + \sqrt{3}} + 2$$

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

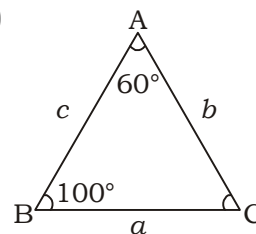
$$\Rightarrow t^2 = 2 + \sqrt{3} + \frac{2 - \sqrt{3}}{4 - 3} + 2$$

$$\Rightarrow t^2 = 2 + \sqrt{3} + 2 - \sqrt{3} + 2 = 6$$

$$\Rightarrow t = \sqrt{6}$$

$$\therefore \sqrt{x} + \frac{1}{\sqrt{x}} = \sqrt{6}$$

142. (C)



$$\angle C = \{180^\circ - (100^\circ + 60^\circ)\} = 20^\circ$$

$$\Rightarrow \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\Rightarrow c = 10 \text{ AC} = b$$

$$\Rightarrow \frac{AC}{\sin 100^\circ} = \frac{10}{\sin 20^\circ}$$

$$\Rightarrow AC = \frac{10 \sin 100^\circ}{\sin 20^\circ}$$

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143. (D) Let the speed of boat in still water is x km/hr
ATQ,

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

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

$$\Rightarrow 4x - 4 + 4x + 4 = 3x^2 - 3$$

$$\Rightarrow 3x^2 - 3 - 8x = 0$$

$$\Rightarrow 3x^2 - 8x - 3 = 0$$

$$\Rightarrow 3x^2 - 9x + x - 3 = 0$$

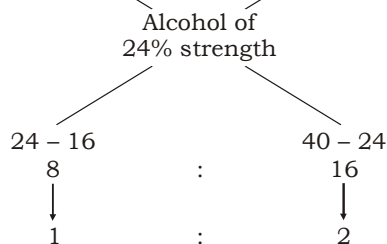
$$\Rightarrow 3x(x-3) + 1(x-3) = 0$$

$$\Rightarrow (3x+1)(x-3) = 0$$

$$\Rightarrow x = \frac{-1}{3} \text{ or } 3$$

$$\therefore x = 3 \text{ km/hr} \quad (\text{ignore -ve value of } x)$$

144. (C) Alcohol of 40% strength Alcohol of 16% strength



Both the types of wine were in the ratio of 1 : 2

The butt with alcohol of 40% strength = $\frac{1}{3}$

The butler stole $\frac{2}{3}$ part.

145. (C) $\tan\theta + \cot\theta = 2$
So, $\tan\theta = 1$

$$(1)^{100} + \frac{1}{(1)^{100}} = 1 + 1 = 2$$

146. (D) Required time = $\frac{5040}{3360} = 1.5$ times

147. (B) Foreign exchange reserves in 2007-08 = 5040 million US \$
Foreign exchange reserves in 2004-05 = 3360 million US \$
 \therefore Increase = (5040 - 3360)
= 1680 million US \$

$$\therefore \text{Percentage increase} = \left(\frac{1680}{3360} \times 100 \right) \% = 50\%$$

148. (A) There is an increase in foreign exchange reserves during the years 2002-03, 2004-05 and 2006-07 as compared to previous year (as shown by bar-graph). The percentage increase in reserves during these years compared to previous year are

$$(i) \text{ For 2002-03} = \left[\frac{(3720 - 2640)}{2640} \times 100 \right] \% = 40.90\%$$

$$(ii) \text{ For 2004-05} = \left[\frac{(3360 - 2520)}{2520} \times 100 \right] \% = 33.33\%$$

$$(iii) \text{ For 2006-07} = \left[\frac{(4320 - 3120)}{3120} \times 100 \right] \% = 38.46\%$$

Clearly, the percentage increase over previous year is highest for 2002-03.

149. (D) Average foreign exchange reserves over the given period

$$= \left[\frac{1}{8} \times (2640 + 3720 + 2520 + 3360 + 3120 + 4320 + 5040 + 3120) \right] \text{ million US \$} = 3480 \text{ million US \$}$$

Foreign exchange reserve in 2006-07 = 4320 million US \$

$$\therefore \text{Required Percentage} = \left(\frac{4320}{3480} \times 100 \right) \% = 124.13\% \approx 125\%$$

150. (C) Average foreign exchange reserves over the given period = 3480 million US \$.

The country had reserves above 3480 million US \$ during the years 2002-03, 2006-07 and 2007-08 i.e., for 3 years and below 3480 million US \$ during the years 2001-02, 2003-04, 2004-05, 2005-06 and 2008-09 i.e., for 5 years.

Hence, required ratio = 3 : 5.



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MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Affliction	Something that causes pain or suffering.	यातना, पीड़ा
Ailment	An illness, typically a minor one	बीमारी, रोग
Attainment	The action or fact of achieving a goal toward which one has worked	सिद्धि, प्राप्ति
Attenuated	Unnaturally thin	अत्यंत कमजोर, पतला
Autism	A mental condition, present from early childhood, characterized by difficulty in communicating and forming relationships with other people and in using language and abstract concepts	एक मानसिक बीमारी जिसमें बोलने और समझने में बाधा होती है
Beseeking	Asking (someone) urgently and fervently to do something	विनती करना, प्रार्थना करना
Borer	A drill for penetrating rock	पत्थरों को बेधने की मशीन
Concerned	worried, troubled, or anxious	चिंतित
Convalescent	(of a person) recovering from an illness or operation	स्वास्थ्य लाभ प्राप्त करने वाला
Cremains	The powder left after a dead person's body has been cremated	शव-अवशेष
Damsel	A young unmarried woman	एक जवान अविवाहित कन्या
Devious	showing a skilful use of underhanded tactics to achieve goals	धूर्त, कुटिल
Dunce	A person who is slow at learning	मूर्ख
Elixir	A magical medicinal potion	दवा, अमृत
Erudition	The quality of having or showing great knowledge or learning; scholarship	ज्ञानविस्तार, पांडित्य
Fatal desire	Having momentous consequences of desire	घातक लालसा
Fickle	Changing frequently, especially as regards one's loyalties, interests, or affection.	चंचल, अस्थिर
Flaunt	Display (something) ostentatiously, especially in order to provoke envy or admiration or to show defiance.	इठलाना, शान दिखाना
Generic	Shared by, including or typical of a whole group of things not specific	जातिगत, सामान्य
Grudgingly	In a way that is given or done unwillingly	अनिच्छापूर्वक
Hornet	A large stinging paper wasp	तेज डंक मारने वाला कीड़ा
Imply	Strongly suggest the truth or existence of (something not expressly stated)	संकेत करना, अर्थ निकालना
Impudent	Not showing due respect for another person; impertinent	बेशरम, गुस्ताख
Inept	Having or showing no skill; clumsy	अयोग्य, अनुपयुक्त
Intense desire	Possessing a distinctive feature to a heightened degree of desire	तीव्र इच्छा
Lassie	A young girl	एक जवान लड़की
Leonine	Resembling like a lion or lions	सिंह जैसा

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Word	Meaning in English	Meaning in Hindi
Longhorn	An animal of a breed of cattle with long horns.	बड़े सींग वाले जानवर
Lore	Traditional knowledge	पारम्परिक ज्ञान
Mademoiselle	A title or form of address used of or to an unmarried French-speaking woman	एक फ्रेंच कुंवारी कन्या
Meadow	A usually flat area of land that is covered with tall grass	घास का मैदान
Minx	An impudent, cunning, or boldly flirtatious girl or young woman	शोख और चालाक लड़की
Nevertheless	Despite anything to the contrary	के बावजूद
Orison	A prayer	भजन, प्रार्थना
Peasant	Farmer	किसान, खेतिहर
Pen	A small enclosure in which sheep, pigs, cattle, or other domestic animals are kept.	बाड़ा, मेड़
Placid	Not easily upset or excited.	प्रसन्नचित, शांत
Plea	A formal statement by or on behalf of a defendant or prisoner, stating guilt or innocence in response to a charge	दलील
Priming	Making (something) ready for use or action, in particular	आदेश देना, हिदायत करना
Ramble	Talk or write at length in a confused or inconsequential way	बेसिर पैर की बातें करना, असंबद्ध बात करना
Rosary	A string of beads used in counting prayers (especially by Catholics)	मनको की माला
See through	To Perceive the true nature of something	स्वभाव जानना, सच जानना
Seizure	The action of capturing someone or something using force	कब्जा, गिरफ्तारी
Stimulate	To raise levels of physiological or nervous activity (in the body or any biological system)	उत्तेजित करना, प्रेरित करना
Stock	The goods or merchandise kept on the premises of a business or warehouse and available for sale or distribution	भंडार, माल
Swarm	A large group of insects, especially bees, moving together in the same direction	मधुमक्खियों का झुंड
Tick	Any of two families of parasite feed on blood of warm blooded animals	एक प्रकार की परजीवी
Triggering	Causing (an event or situation) to happen or exist	तेज करना, बढ़ाना
Vaccination	The act of giving a person or an animal a vaccine in order to protect them against a disease	टीका

CPO MOCK TEST - 30 (ANSWER KEY)

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

151. (A) To express wish, condition or supposition, 'were' should be used. Hence, 'He wish, he were' will be the correct usage.
152. (B) The word 'confident' takes preposition 'of' and a preposition is followed by a gerund. Hence, 'she is confident of winning....' will be the correct usage.
153. (A) 'The boy lay in the shelter' will be the correct usage. Lie (लेटना) takes V₂ (lay)
154. (A) 'While he was standing' is correct usage. If there is no subject for the 1st part of the sentence 'the house' becomes the subject of the 1st part too and then the meaning of the sentence becomes wrong.
155. (B) When a relative pronoun (here → who) joins a verb with a subject, the verb agrees to the antecedent of the relative pronoun (here → players). Change 'has' into 'have'.