## SSC CPO SI MOCK TEST - 06 (SOLUTION)

1. (B)

2. (D) The sound produced by beer is Hum. Similarly, the sound produced by owls is 'Hoot'.
3. (C) Confirmed is related to inveterate and financial is related to bankrupt.
4. (A) Bench is a type of furniture. Similarly, pen is a type of stationery goods.
5. (C) Coal is known as Black diamond. Similarly, Petroleum is known as liquid gold.
6. (D) Poster is pasted on the wall. Similarly, photograph is kept in frame.
7. (C) Except option (C) all are related to private sector.
8. (D) Except D other are non-prime numbers.
9. (C) 49 is perfect square
10. (B) Except option (B), all are related to religion.
11. (A) Except option (A), all are carnivorous animals.
12. (A) Lakshadweep is a group of islands, whereas Tamil Nadu, Andhra Pradesh and Kerala are States.
13. (D) All others are related to educational institutions.
14. (C) (A) $73-61=12$
(B) $69-57=12$
(C) $42-29=13$
(D) $59-47=12$
15. (B) $(2 \times 5)-3=7$
$(7 \times 2)-1=13$
Similarly, $(5 \times 4)-x=15$
or, $20-x=15$
$\therefore x=20-15=5$
16. (B)


Similarly,

17. (B) $(27+18)-(13+12)=20$
$(16+12)-(9+6)=13$
Similarly,
$(10+11)-(4+5)=12$
18. (C) After interchanging the signs and numbers, the correct equation will be $4+6 \times 2=16$
19. (B) $4 \frac{1}{4}=\frac{17}{4}$
20. (C)

21. (D) 5

$L(\times 5-3) \uparrow L \times 5-3) \uparrow L(\times 5-3) \uparrow L(\times 5-3) \uparrow$
22. (C)

23. (A)
(D) $\frac{\text { Parallelism }}{1}$
(C) $\frac{\text { Paralyse }}{2}$
(A) $\frac{\text { Paralysis }}{3}$
(B) $\frac{\text { Paralytic }}{4}$
24. (A) 3. Rabindranath Tagore - 1913
5. Sir C.V. Raman - 1930
2. Mother Teresa - 1979

1. Amartya Sen - 1998
2. Venktraman Ramakrishna - 2009
3. (D) E $\underline{\mathbf{F}} \mathrm{G} / \mathrm{F} \underline{\mathbf{G}} \mathrm{E} / \underline{\mathbf{E} F \mathrm{~F}} \mathrm{~F} / \mathrm{F} \underline{\mathbf{G}} \mathrm{E}$
4. (C)
5. (D)

6. (D)

7. (D) LOTION
8. (A)


So,

31. (B) @ $\Delta \%$ \#
32. (C) $5+4+7+2=18$ $6+3+4+2=15$ and


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$7+5+8+4=24$
Similarly,

$$
9+2+3+6=20
$$

33. (C) \# \% @
34. (A)

and $B$


Similarly,

35. (A) Here, $1=\wedge, 9=0,8=\Delta, 6=>, 2=+$, $3=\times, 4=\diamond$ and $5=\square$

36. (C)
37. (D)
38. (A) Tarun ${ }^{(+)}$

39. (C) 895176982198435913695
40. (A)


Similarly,

41. (C) S

$$
\begin{aligned}
& \mathrm{P} \mathrm{~T} \\
& \mathrm{Q} \\
& \mathrm{R}
\end{aligned} \mathrm{~T}^{\text {Third from the bottom }}
$$

42. (C)
43. (B)
44. (D)
45. (C)
46. (C)
47. (C)
48. (A)
49. (C) The numerical groups of JADE will be -$\mathrm{J}-56,68,75,87,99$
A - 00, 12, 24, 31, 43

D-03, 10, 22, 34, 41
E-04, 11, 23, 30, 42
101. (B) Straight line $4 x+3 y=12$ passes through 1 st, 2 nd $\& 4$ th quadrant.
102. (B)

$\because$ In $\triangle A D C$,
AC is the hypotenuse, which is the longest side of triangle.
$\Rightarrow A C>A D$
Similarly, $\quad A C>C F$
$\mathrm{AB}>\mathrm{AD}$
$\mathrm{AB}>\mathrm{BE}$
$\mathrm{BC}>\mathrm{CF}$
and $\quad \mathrm{BC}>\mathrm{BE}$
On adding above inequalities, we have

$$
2(\mathrm{AB}+\mathrm{BC}+\mathrm{CA})>2(\mathrm{AD}+\mathrm{BE}+\mathrm{CF})
$$

$\Rightarrow \quad(\mathrm{AB}+\mathrm{BC}+\mathrm{CA})>(\mathrm{AD}+\mathrm{BE}+\mathrm{CF})$
103. (B) $(\angle A+\angle B)+(\angle B+\angle C)=65^{\circ}+140^{\circ}$

$$
\begin{aligned}
(\angle A+\angle B+\angle C)+\angle B & =205^{\circ} \\
180^{\circ}+\angle B & =205^{\circ} \\
\angle B & =205^{\circ}-180^{\circ} \\
& =25^{\circ}
\end{aligned}
$$

104. (A)


$$
\begin{aligned}
\mathrm{OT} & =4 \mathrm{~cm} \\
\mathrm{PO} & =5 \mathrm{~cm} \\
\mathrm{PO}^{2} & =\mathrm{PT}^{2}+\mathrm{TO}^{2} \\
5^{2} & =\mathrm{PT}^{2}+4^{2} \\
\Rightarrow \mathrm{PT} & =3 \mathrm{~cm}
\end{aligned}
$$

105. (B) $x\left(3-\frac{2}{x}\right)=\frac{3}{x}$

$$
\begin{aligned}
& 3 x-2=\frac{3}{x} \\
& 3 x-\frac{3}{x}=2
\end{aligned}
$$

$$
\begin{aligned}
x-\frac{1}{x} & =\frac{2}{3} \\
x^{2}+\frac{1}{x^{2}} & =\left(x-\frac{1}{x}\right)^{2}+2 \\
& =\left(\frac{2}{3}\right)^{2}+2 \\
& =\frac{4}{9}+\frac{2}{1}=\frac{22}{9}=2 \frac{4}{9}
\end{aligned}
$$

106. (A) $16 a^{2}-12 a$
$=(4 a)^{2}-2.4 a \times \frac{3}{2}+\left(\frac{3}{2}\right)^{2}=\left(4 a-\frac{3}{2}\right)^{2}$
$\frac{9}{4}$ must be added in $16 a^{2}-12 a$ to make it a perfect square.
107. (C)


Let AB \& CD are two parallel chords of $\mathrm{C}(0,10 \mathrm{~cm})$.
$\mathrm{AB}=12 \mathrm{~cm} \Rightarrow \mathrm{AM}=\frac{1}{2} \times 12=6 \mathrm{~cm}$
[perp. from centre to any chord, bisects the chord]

Similarly $\mathrm{CN}=\frac{1}{2} \times 16=8 \mathrm{~cm}$

$$
\begin{aligned}
\mathrm{AM}^{2}+\mathrm{OM}^{2} & =\mathrm{OA}^{2} \\
6^{2}+\mathrm{OM}^{2} & =10^{2}
\end{aligned}
$$

$$
\mathrm{OM}=\sqrt{100-36}=\sqrt{64}=8 \mathrm{~cm}
$$

Again,

$$
\begin{aligned}
\mathrm{CN}^{2}+\mathrm{ON}^{2} & =\mathrm{OC}^{2} \\
8^{2}+\mathrm{ON}^{2} & =10^{2} \\
\mathrm{ON} & =\sqrt{100-36} \\
& =\sqrt{36}=6 \mathrm{~cm}
\end{aligned}
$$

$\therefore$ The distance between the chords

$$
\begin{aligned}
=\mathrm{MN} & =\mathrm{OM}+\mathrm{ON} \\
& =8+6 \\
& =14 \mathrm{~cm}
\end{aligned}
$$

108. (D)


$$
\begin{aligned}
\mathrm{BD} & =\mathrm{AD}-\mathrm{AD} \\
& =10-4=6 \mathrm{~cm}
\end{aligned}
$$

$\mathrm{BD}: \mathrm{DA}=\mathrm{BE}: \mathrm{EC}$
$\Rightarrow 6: 4=\mathrm{BE}: \mathrm{EC} \Rightarrow \mathrm{BE}: \mathrm{CE}=3: 2$
109. (B)


In $\triangle A O B$,
$\because \mathrm{OA}=\mathrm{OB}$

$$
\Rightarrow \quad \angle O A B=\angle O B A=45^{\circ}
$$

In $\triangle A O C$,
$\mathrm{OA}=\mathrm{OC}$
$\Rightarrow \angle O A C=\angle O C A=35^{\circ}$
$\therefore \quad \angle B A C=\angle O A B+\angle O A C$

$$
=45^{\circ}+35^{\circ}=80^{\circ}
$$

100. (A)


Let $h \mathrm{~m}$ be the height of the balloon.
In $\triangle C B D$,

$$
\begin{aligned}
\tan 60^{\circ} & =\frac{C B}{B D} \\
\sqrt{3} & =\frac{h}{B D} \\
\Rightarrow B D & =\frac{h}{\sqrt{3}} \mathrm{~cm}
\end{aligned}
$$

In $\triangle C B A$

$$
\tan 30^{\circ}=\frac{C B}{B A}
$$

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$$
\begin{aligned}
& \frac{1}{\sqrt{3}}=\frac{h}{B D+D A}=\frac{h}{\frac{h}{\sqrt{3}}+1000} \\
& \Rightarrow \frac{h}{\sqrt{3}}+1000=h \sqrt{3} \\
& h \sqrt{3}-\frac{h}{\sqrt{3}}=1000 \\
& h\left(\frac{3-1}{\sqrt{3}}\right)=1000 \\
& h=\frac{1000 \sqrt{3}}{2}=500 \sqrt{3} \\
&=\frac{500 \sqrt{3}}{1000} \mathrm{~km}=\frac{1}{2} \sqrt{3} \mathrm{~km}
\end{aligned}
$$

111. (C)

$\angle C A D=\angle C B D$ (Angles in the same segment of a circle)
$\therefore \angle C B D=\theta$
Now, $\triangle A O B \cong \triangle C O B$ (by RHS)
$\therefore \angle A B O=\angle C B O$ (by CPCT)

$$
\angle A B O=\angle C B D=\theta
$$

$\therefore \angle A B C=\angle A B O+\angle C B O=2 \theta$
112. (C)


Let $\triangle A B C$ is equilateral \& $A D$ is its height. Let ' $a$ ' unit is the side of the $\triangle A B C$.

$$
\Rightarrow \mathrm{AB}=a \& \mathrm{BD}=\frac{a}{2}
$$

height $\mathrm{AD}=\sqrt{A B^{2}-B D^{2}}$

$$
\begin{aligned}
15 & =\sqrt{a^{2}-\frac{a^{2}}{4}} \\
15 & =\frac{\sqrt{3}}{2} a
\end{aligned}
$$

$\Rightarrow \quad a=\frac{15 \times 2}{\sqrt{3}} \mathrm{~cm}$
Hence $B C=\frac{30}{\sqrt{3}}=\frac{10 \sqrt{3} \times \sqrt{3}}{\sqrt{3}}=10 \sqrt{3} \mathrm{~cm}$
Area of $\triangle A B C=\frac{\sqrt{3}}{4} \times a^{2}$

$$
\begin{aligned}
& =\frac{\sqrt{3}}{4} \times 10 \sqrt{3} \times 10 \sqrt{3} \\
& =75 \sqrt{3} \mathrm{~cm}^{2} .
\end{aligned}
$$

113. (A) Work done by Ram \& Shyam in 1 day

$$
=\frac{1}{12}
$$

Work done by Shyam \& Hari in 1 day

$$
=\frac{1}{15}
$$

Work done by Hari \& Ram in 1 day

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

Work done by $2[$ Ram + Shyam + Hari $]$

$$
\begin{aligned}
& =\frac{1}{12}+\frac{1}{15}+\frac{1}{20} \\
& =\frac{5+4+3}{60}=\frac{12}{60}=\frac{1}{5}
\end{aligned}
$$

Work done by (Ram + Shyam + Hari) in 1 day $=\frac{1}{10}$
Work done by Ram alone in 1 day

$$
\begin{aligned}
& =\frac{1}{5}-\frac{1}{10} \\
& =\frac{3-2}{30}=\frac{1}{30}
\end{aligned}
$$

$\therefore$ Ram can do the whole work in 30 days.
114. (A) 3 men $=5$ women
$\Rightarrow 1 \mathrm{man}=\frac{5}{3}$ women
$\therefore 6$ men $=\frac{5}{3} \times 6=10$ women
6 men +5 women $=(10+5)$ women
$\because 5$ women complete a work in 15 days.
$\therefore 1$ woman completes a work in $15 \times 5$
$\therefore 15$ women complete a work in $\frac{15 \times 5}{15}$

$$
=5 \text { days }
$$

115. (C) Work done by $(A+B)$ in 1 day $=\frac{1}{12}$

Work done by $(B+C)$ in 1 day $=\frac{1}{15}$
Work done by $(C+A)$ in 1 day $=\frac{1}{20}$
Work done by $2(\mathrm{~A}+\mathrm{B}+\mathrm{C})$ in 1 day

$$
\begin{aligned}
& =\frac{1}{12}+\frac{1}{15}+\frac{1}{20} \\
& =\frac{5+4+3}{60}=\frac{12}{60}=\frac{1}{5}
\end{aligned}
$$

Work done by $(\mathrm{A}+\mathrm{B}+\mathrm{C})$ in 1 day

$$
=\frac{1}{5 \times 2}=\frac{1}{10}
$$

Work done by A alone in 1 day

$$
=\frac{1}{10}-\frac{1}{15}=\frac{3-2}{30}=\frac{1}{30}
$$

Hence A can complete the work alone in 30 days.
116. (A) Perimeter - Diameter $=X$

$$
\begin{aligned}
2 \pi r-2 r & =X \\
2 r(\pi-1) & =X \\
2 r & =\frac{X}{\pi-1}
\end{aligned}
$$

117. (D)

$2 \pi r=a$

$$
r=\frac{a}{2 \pi}
$$

Volume $=\mathrm{V}$

$$
\pi r^{2} h=\mathrm{V}
$$

$$
\pi \times \frac{a^{2}}{4 \pi^{2}} h=\mathrm{V}
$$

$$
\Rightarrow \quad h=\frac{4 \pi V}{a^{2}}
$$

118. (D) $4^{\text {th }}$ root of 24010000

$$
\begin{aligned}
& =(24010000)^{\frac{1}{4}} \\
& =(7 \times 7 \times 7 \times 7 \times 10 \times 10 \times 10 \times 10)^{\frac{1}{4}} \\
& =7 \times 10=70
\end{aligned}
$$

119. (C) Greatest 4-digit number $=9999$

| 99 |  |
| ---: | :--- |
| 9 | 9999 |
| 9 | 81 |
| 189 | 1899 |
|  | 1701 |
|  | 198 |

Greatest 4-digit perfect square number

$$
\begin{aligned}
& =9999-198 \\
& =9801
\end{aligned}
$$

120. (A) MP = Rs. $x$ (say)
$\mathrm{SP}=90 \%$ of $x=$ Rs. $\frac{9 x}{10}$
$\%$ profit $=12 \%$

$$
\mathrm{CP}=\frac{\mathrm{SP} \times 100}{100+12 \%}
$$

$$
=\frac{\frac{9 x}{10} \times 100}{112}=\frac{90 x}{112}
$$

Now, $\frac{\mathrm{CP}}{\mathrm{MP}}=\frac{\frac{90 x}{112}}{x}=\frac{45}{56}$
121. (D) $\mathrm{MP}=$ Rs. 160

SP after two successive discounts

$$
=\text { Rs. } 122.40
$$

Ist discount $=10 \%$ ATQ,

$$
\begin{aligned}
& 160\left(\frac{100-10}{100}\right)\left(\frac{100-y}{100}\right)=\text { Rs. } 122.40 \\
& 160 \times \frac{90}{100} \times \frac{100-y}{100}=\text { Rs. } 122.40 \\
& \begin{aligned}
(100-y) & =\frac{122.40 \times 100 \times 100}{90 \times 160} \\
& =85 \\
y & =100-85=15
\end{aligned}
\end{aligned}
$$

$\ddot{2 n d}$ discount $=15 \%$
122. (B) Let 'g' stands for the no. of girls $\&$ ' $b$ ' stands for the no. of boys

$$
\begin{aligned}
& 10 \% \text { of } g \quad=\frac{1}{20} \text { of } \mathrm{b} \\
\Rightarrow & \frac{10}{100} \times \mathrm{g}=\frac{1}{20} \times \mathrm{b} \\
\Rightarrow \quad & \frac{b}{g}=\frac{10 \times 20}{100}=\frac{2}{1} \\
\Rightarrow \quad & b: g=2: 1
\end{aligned}
$$

123. (D) $(25)^{2.5}:(5)^{3}$

| $\Rightarrow$ | $\left(5^{2}\right)^{2.5}: 5^{3}$ |
| :--- | :--- |
| $\Rightarrow$ | $5^{5}: 5^{3}$ |
| $\Rightarrow$ | $25: 1$ |

$\Rightarrow \quad 5^{5} \quad: 5^{3}$
$\Rightarrow \quad 25: 1$

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124. (B)

$\mathrm{r}_{\mathrm{s}}=3 \mathrm{~cm}$
$\mathrm{r}_{\mathrm{c}}=6 \mathrm{~cm}$$\left[\begin{array}{l}\mathrm{r}_{\mathrm{s}} \rightarrow \text { rad. of sphere } \\ \mathrm{r}_{\mathrm{c}} \rightarrow \text { rad. of cylinder }\end{array}\right]$

Volume of the water raised in the cylinder
$=$ Vol. of the sphere

$$
\begin{aligned}
& =\pi r_{c}^{2} h^{\prime}=\frac{4}{3} \pi r_{s}^{3} \\
& =\pi \times 6^{2} \times h^{\prime}=\frac{4}{3} \pi \times 3^{3}
\end{aligned}
$$

$$
h^{\prime}=\frac{4 \pi \times 27}{\pi \times 3 \times 6^{2}}
$$

$$
=\frac{4 \times 27}{3 \times 36}=1
$$

$$
\mathrm{h}^{\prime}=1 \mathrm{~cm}
$$

125. (C) Let the CP of the article $=$ Rs. $x$

$$
\text { the MP of the article }=\text { Rs. } \frac{120 x}{100}
$$

SP after $15 \%$ discount $=85 \%$ of $\frac{120 x}{100}$

$$
=\operatorname{Rs} \cdot \frac{102 x}{100}
$$

$$
\text { Gain }=\frac{102 x}{100}-x=\frac{2 x}{100}
$$

$$
\% \text { gain }=\frac{\frac{2 x}{100} \times 100}{x}=2 \%
$$

126. (C) Let the CP of the article $=$ Rs. $x$

$$
\text { SP at } 20 \% \text { loss }=80 \% \text { of } x
$$

$$
=\operatorname{Rs} . \frac{4 x}{5}
$$

$$
\text { New SP }=\operatorname{Rs} .\left(\frac{4 x}{5}+100\right)
$$

$$
\% \text { gain = 5\% }
$$

$\mathrm{SP}=105 \%$ of $x=\frac{105 x}{100}$
ATQ,

$$
\frac{4 x}{5}+100=\frac{105 x}{100}
$$

$$
\begin{aligned}
\Rightarrow \frac{21 x}{20}-\frac{4 x}{5} & =100 \\
\Rightarrow \quad \frac{21 x-16 x}{20} & =100 \\
5 x & =100 \times 20 \\
x & =\frac{100 \times 20}{5}=\text { Rs. } 400 \\
\mathrm{CP} & =\text { Rs. } 400
\end{aligned}
$$

127. (C)Let the original price of the article $=$ Rs. $x$ Then,

$$
\begin{aligned}
& \frac{x(100-20)(100+30)}{100 \times 100}=416 \\
& x=\frac{416 \times 100 \times 100}{80 \times 130}=\text { Rs. } 400
\end{aligned}
$$

128. (B) Total journey covered by the man $=x \mathrm{~km}$ (say)

Journey by train $=\frac{2}{15} x$ \& by bus $=$ $\frac{9}{20} x$

## Remaining journey

$$
\begin{aligned}
& =x-\left(\frac{2}{15} x+\frac{9}{20} x\right) \\
10 & =x-\left(\frac{8 x+27 x}{60}\right) \\
& =\frac{60 x-35 x}{60} \\
\frac{10}{1} & =\frac{25 x}{60} \\
x & =\frac{60 \times 10}{25}=24 \mathrm{~km}
\end{aligned}
$$

129. (D) Let the usual speed of the man $=x \mathrm{~m} /$ min Let the distance of his office $=y \mathrm{~m} / \mathrm{min}$

New Speed $=\frac{3}{4} x \mathrm{~m} / \mathrm{min}$ ATQ,

$$
\begin{aligned}
\frac{y}{\frac{3}{4} x}-\frac{y}{x} & =20 \\
\frac{y}{x}\left[\frac{4}{3}-1\right] & =20 \\
\frac{y}{x} & =20 \times 3=60
\end{aligned}
$$

Usual time $=\frac{\text { distance }}{\text { speed }}=\frac{y}{x}=60 \mathrm{~min}$
130. (D) $a, b, c, d, e$ are consecutive odd numbers.
$\therefore b=a+2, c=a+2+2=a+4$
$d=a+2+2+2=a+6$
$\mathrm{e}=a+8$
Average $=\frac{a+b+c+d+e}{5}$

$$
\begin{aligned}
& =\frac{a+(a+2)+(a+4)+(a+6)+(a+8)}{5} \\
& =\frac{5 a+20}{5}=a+4
\end{aligned}
$$

131. (A) Sum of 20 numbers $=20 \times 15=300$ Sum of $1^{\text {st }}$ five numbers $=12 \times 5=60$

$$
\begin{aligned}
\text { Average of the rest } & =\frac{300-60}{15}=\frac{240}{15} \\
& =16
\end{aligned}
$$

132. (C) $\frac{a}{1-a}+\frac{b}{1-b}+\frac{c}{1-c}=1$

$$
\begin{aligned}
& \frac{a}{1-a}+1+\frac{b}{1-b}+1+\frac{c}{1-c}+1=4 \\
& \frac{a-1-a}{1-a}+\frac{b+1-b}{1-b}+\frac{c+1-c}{1-c}=4 \\
& \frac{1}{1-a}+\frac{1}{1-b}+\frac{1}{1-c}=4
\end{aligned}
$$

133. (C) $(x-3)^{2}+(y-5)^{2}+(z-4)^{2}=$

The above equality is possible only when

$$
\begin{array}{rlrl}
x-3 & =0, y-5 & =0 \& z-4=0 \\
\Rightarrow & x & =3, \quad y & =5, \quad z=4
\end{array}
$$

Now,

$$
\begin{aligned}
& \frac{x^{2}}{9}+\frac{y^{2}}{25}+\frac{z^{2}}{16} \\
= & \frac{9}{9}+\frac{25}{25}+\frac{16}{16}=3
\end{aligned}
$$

134. (C) $\frac{4 x}{3}+2 P=12$

$$
\begin{array}{rlrlrl} 
& \Rightarrow & & \frac{4 \times 6}{3}+2 P & =12 \\
\Rightarrow & & 2 P & =4 \\
& \therefore & P & =2
\end{array}
$$

135. (A) $\frac{4+3 \sqrt{3}}{7+4 \sqrt{3}} \frac{4(7-4 \sqrt{3})+3 \sqrt{3}(7-4 \sqrt{3})}{49-48}$
$=28-16 \sqrt{3}+21 \sqrt{3}-36$
$=-8+5 \sqrt{3}$
136. (A)
$\mathrm{CI}=P\left[\left(1+\frac{12}{100}\right)^{2}-1\right]$
$2544=P\left[\left(\frac{28}{25}\right)^{2}-1\right]$

$$
=\frac{2544 \times 25 \times 25}{(28+25)(28-25)}
$$

$=$ Rs. 10000
SI $=\frac{P \times R \times T}{100}$

$$
=\frac{10000 \times 12 \times 2}{100}
$$

= Rs. 2400
137. (A) Let the cost of one bucket \& one mug
$=$ Rs. $x \&$ Rs. $y$ respectively.
Then,

$$
8 x+5 y=92
$$

\& $\quad 5 x+8 y=77$
By cross multiplication.

$$
\begin{aligned}
x & =\frac{5 \times-77-8 \times-92}{8 \times 8-5 \times 5} \\
& =\frac{-385+736}{64-25} \\
& =\frac{351}{39}=9 \\
y & =\frac{-92 \times 5-(-77) \times 8}{8 \times 8-5 \times 5} \\
& =\frac{-460+616}{39} \\
& =\frac{156}{39}=4
\end{aligned}
$$

Cost of 2 mugs +3 buckets

$$
\begin{aligned}
& =2 \times 4+3 \times 9 \\
& =8+27=\text { Rs. } 35
\end{aligned}
$$

138. (A) $(\tan \theta+\cot \theta)^{2}=2^{2}$

$$
\begin{aligned}
& \tan ^{2} \theta+\cot ^{2} \theta+2 \tan \theta \cot \theta=4 \\
\Rightarrow & \tan ^{2} \theta+\cot ^{2} \theta+2=4 \\
\Rightarrow & \tan ^{2} \theta+\cot ^{2} \theta=2
\end{aligned}
$$

139. (A) $\because \quad x \cos \theta-y \sin \theta=2$

$$
\begin{equation*}
x \sin \theta+y \cos \theta=4 \tag{i}
\end{equation*}
$$

On squaring and adding (i) and (ii), we have
$(x \cos \theta-y \sin \theta)^{2}+(x \sin \theta+y \cos \theta)^{2}=2^{2}+4^{2}$ $\Rightarrow x^{2} \cos ^{2} \theta+y^{2} \sin ^{2} \theta-2 x y \cos \theta \sin x \theta$

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$+x^{2} \sin ^{2} \theta+y^{2} \cos ^{2} \theta+2 x y \cos \theta \sin \theta=4+$
16
$\Rightarrow x^{2}\left(\cos ^{2} \theta+\sin ^{2} \theta\right)+y^{2}\left(\sin ^{2} \theta+\cos ^{2} \theta\right)=20$
$\Rightarrow x^{2}+y^{2}=20$
140. (D) $\sin ^{2} \theta-3 \sin \theta+2=0$

$$
\Rightarrow \sin ^{2} \theta-2 \sin \theta-\sin \theta+2=0
$$

$$
\sin \theta(\sin \theta-2)-1(\sin \theta-2)=0
$$

$\Rightarrow \quad(\sin \theta-1)(\sin \theta-2)=0$
$\Rightarrow \sin \theta=1,2$
Hence $\theta=90^{\circ}$
141. (C) $\left[\frac{\cos ^{2} A(\sin A+\cos A)}{\operatorname{cosec}^{2} A(\sin A-\cos A)}+\frac{\sin ^{2} A(\sin A-\cos A)}{\sec ^{2} A(\sin A+\cos A)}\right] \times$ [ $\left.\sec ^{2} \mathrm{~A}-\operatorname{cosec}^{2} \mathrm{~A}\right)$
$=\left[\frac{\cos ^{2} A(\sin A+\cos A)}{\operatorname{cosec}^{2} A(\sin A-\cos A)}+\frac{\cos ^{2} A(\sin A-\cos A)}{\operatorname{cosec}^{2} A(\sin A+\cos A)}\right] \times$ $\left[\sec ^{2} A-\operatorname{cosec}^{2} A\right)$
$=\frac{\cos ^{2} A}{\operatorname{cosec}^{2} A}\left[\frac{(\sin A+\cos A)^{2}+(\sin A-\cos A)^{2}}{\sin ^{2} A-\cos ^{2} A}\right] \times$
$\left[\frac{1}{\cos ^{2} A}-\frac{1}{\sin ^{2} A}\right]$
$=\frac{\cos ^{2} A}{\operatorname{cosec}^{2} A}\left[\frac{2\left(\sin ^{2} A+\cos ^{2} A\right)}{\sin ^{2} A-\cos ^{2} A}\right]\left[\frac{\sin ^{2} A-\cos ^{2} A}{\sin ^{2} A \cos ^{2} A}\right]$
$=\frac{2}{\cos ^{2} A} \times \frac{1}{\sin ^{2} A}=2 \times \frac{1}{1}=2$
142. (D) $3 \cos 80^{\circ} \operatorname{cosec} 10^{\circ}+2 \cos 59^{\circ} . \operatorname{cosec}$ $31^{\circ}$
$3 \cos \left(90^{\circ}-10^{\circ}\right)\left(\operatorname{cosec} 10^{\circ}+2 \cos \left(90^{\circ}-\right.\right.$ $31^{\circ}$ ) $\operatorname{cosec} 31^{\circ}$
$3 \sin 10^{\circ} \operatorname{cosec} 10^{\circ}+2 \sin 31^{\circ} \times \operatorname{cosec}$ $31^{\circ}$
$=3+2=5$
143. (C) $\pi \mathrm{rad}=180^{\circ}$

$$
\begin{aligned}
& 1 \mathrm{rad}=\frac{180}{\pi} \\
\therefore \quad & \frac{3 \pi}{5} \mathrm{rad} \quad=\frac{180}{\pi} \times \frac{3 \pi}{5}=108^{\circ}
\end{aligned}
$$

144. (D) No. of students passed in 1st division in $2008=20$ Total students $=170$

$$
\begin{aligned}
\% \text { passed } & =\frac{20}{170} \times 100 \\
& =\frac{200}{17} \%=11 \frac{13}{17} \%
\end{aligned}
$$

145. (D) \% pass students in 2008

$$
\begin{aligned}
& =\frac{140}{170} \times 100 \\
& =82 \frac{6}{17} \%
\end{aligned}
$$

146. (A) \% of pass students in 2009

$$
\begin{aligned}
& =\frac{140}{190} \times 100 \\
& =73.68 \%
\end{aligned}
$$

$\%$ of pass students in 2008

$$
=82.35 \%
$$

\% of pass students in 2010

$$
=\frac{160}{200} \times 100=80 \%
$$

$\therefore$ In $2008 \%$ of pass students is highest.
147. (C) No. of students pass in $3^{\text {rd }}$ division in $2008=60$
148. (A) No. of students in $2^{\text {nd }}$ division in $2010=$ 60
$\%$ of students passed in $2^{\text {nd }}$ division

$$
=\frac{60}{200} \times 100=30 \%
$$

149. (A) Cost of labour $=\frac{115.2}{360} \times 96000=$ Rs. 30720
150. (D) Cost of material $=\frac{144}{360} \times 96000$
$=$ Rs. 38400
Cost of direct expense $=\frac{43.2}{360} \times 96000$
= Rs. 11520
Difference $=38400-11520=$ Rs. 26880


## MEANINGS IN ALPHABETICAL ORDER

Word
Acrophobia Agoraphobia
Ammunition
Animistic
Apathy
Apparition
Artlessness
Baleful
Connoisseur
Dilettante

Esteem
Evince
Frugal
Garish
Gaudy
Haste
Heir
Hydrophobia
Immanent
Intimidating
Maestro
Narcotic
Pedigree
Progeny
Pyrophobia
Quack
Reincarnation
Reliability
Sporadic
Spurious
Sumptuous
Trivial
Vagary

Vital

## Meaning in English

Fear of height
Fear of open space
The objects that are shot from weapons
Belief in existence of spirits
Indifference
A ghostly appearing things
Lacing art or skill
Harmful or deadly
An expert in fine art
Dabbler/A person whose interest in an art is
not very deep or serious
Respect
Express/to show clearly
Economical
Flashy / showy
Garish/showy
Hurry
Inheritor
Fear of water
Inherent/indwelling
Daunting
An artist of consummate skill
A drug that affects the brain
The origin and the history of something
Immediate descendants of a person
Fear of fire
Medically unqualified
Rebirth
Dependability
Irregular
Unauthentic
Luxury
Superficial
An erratic, unpredictable or extravagant action or notion
Critical

## Meaning in Hindi

ऊँचा ई से ड र
खु ले सथाTन का ड र
गा' ला - बा रू
आ г मा आ' के हा' ने प
बे परवा ह
प्रे त
अकु श्र लता
ख तरना क
कदरदा न
नाँ सिब, आ

## स मा न

स्पषटदिखा ना
अल फ ये
9 T ड. की ला
\% T ड. की ला
ज दबा जे
वा रिस
प नी से ड र
अं तर्नि हित सर्म ठ य पे
भा या $\uparrow$ त त्रने वा ला
उ ₹ ता द
नशी ली दवा
नई ल
वं
आ ग से ड र
झा’ ला छा पड $\mathrm{T}^{`}$ क टर
पु नर्ज $=$ म
विश्वसी य
रक- रक कर
नक्ली
प T ना र
मा मू ली
माँ ज स्स

महत्र वपू प ${ }^{\circ}$

2007, OUTRAM LINES, 1ST FLOOR, OPPOSITE MUKHERJEE NAGAR POLICE STATION, DELHI-110009

SSC CPO SI MOCK TEST - 06 (ANSWER KEY)

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

## Explanation

151. (B); Replace 'works' by 'many pieces of work'. 'Work' is an uncountable noun and hence it will not become plural if ' $s$ ' is added to it.
152. (B); Change' their' into 'her'. If 'of' is preceded by 'each', the noun or pronoun that comes immediately after 'of' will be plural in form. However verbs, pronoun etc that come in the latter part of sentence will be singular in form.
153. (B); Replace 'canvasing' into 'canvassing'. Use correct form of word.

154. (C); Change 'are' into 'is'. When two subjects are joined by 'neither .....nor', the verb will agree with the nearest subject.
155. (B); Change 'will' into 'would'.
156. (B); Change 'will' into 'would'.
158.(B); Addicted to - की लत हा' ना
159.(A); Accused of -का आ रा पे हा' ना

## Note:- If your opinion differs regarding any answer, please message the mock test and question number to 8860330003

Note:- Whatsapp with Mock Test No. and Question No. at 7053606571 for any of the doubts. Join the group and you may also share your suggestions and experience of Sunday Mock Test.

Note:- If you face any problem regarding result or marks scored, please contact 9313111777

