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

## SSC MOCK TEST - 159 (SOLUTION)

1. (D) As, Influenza is caused by virus. Similarly, Typhoid is caused by Bacteria.
2. (C) As,


Similarly,

3. (C) As, $121=(11)^{2} \rightarrow 11+1=12$

Similarly, $25=5^{2} \rightarrow 5+1=6$
4. (A) Except arrow, all are used while holding in hand.
5. (B) Except 28, others are divisible by 3.


$$
\mathrm{D} \quad \mathrm{E}, \mathrm{P} \quad \mathrm{Q} \quad \mathrm{~T} \quad \mathrm{U}, \mathbf{M} \mathbf{O}
$$

7. (A) Science $\rightarrow$ Scramble $\rightarrow$ Script $\rightarrow$ Scripture $\rightarrow$ Scrutiny
8. (B) As,

$$
\begin{aligned}
& 0^{2}-0=0 \\
& 1^{2}-1=0 \\
& 2^{2}-2=2 \\
& 3^{2}-3=6 \\
& 4^{2}-4=12 \\
& 5^{2}-5=20 \\
& 6^{2}-6=30
\end{aligned}
$$

Similarly, $7^{2}-7=42$
9. (A) Vowels in descending order. U, O, I, E, A 10. (B)

11. (D)

$\therefore$ Required distance $=\mathrm{OX}=\sqrt{(3)^{2}+(4)^{2}}=\mathbf{5} \mathbf{K m}$
12. (C) PRONE
13. (A) As,

$\begin{array}{lll}\text { E } & \text { N } & \text { T } \\ \downarrow & \downarrow & \downarrow \\ 3 & 9 & 8\end{array}$

Similarly, $\begin{array}{cccccc}\text { E } & \text { L } & \text { E } & \text { V } & \text { E } & \text { N } \\ & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ \mathbf{3} & \mathbf{2} & \mathbf{3} & \mathbf{0} & \mathbf{3} & \mathbf{9}\end{array}$
14. (A) $30+5-3 \div 2 \times 5$

After changing the signs as per given details,
$=30 \div 5 \times 3+2-5$
$=6 \times 3+2-5$
$=18+2-5$
$=15$
15. (B) As, $1324=(2+4)-(1+3)=2$ And, $1536=(3+6)-(1+5)=3$
Similarly, $1672=(7+2)-(1+6)=2$
16. (B) As, $(25-10) \times(25-17)=120$ and, $(23-21) \times(23-15)=16$ Similarly, $(18-5) \times(18-11)=91$
17. (C) 16
18. (A)


Conclusion $\rightarrow$ I $-\checkmark$
II - $x$
Hence, only conclusion I follows.
19. (A) By common adjacent face rule in dia. II and III

$\therefore 2$ dots are present on the face opposite to the face with five dots
20. (A)

21. (D)
22. (B)
23. (A)

24. (C) In 12 hours,they are at right angles 22 times. So, in 24 hours, they are at right angles 44 times.
25. (C)

26. (C) Electromagnetic waves include radio waves, microwaves, infrared, visible light, ultra-violet, x-rays and gamma rays. Electromagnetic waves are transverse waves and they all travel at the speed of light in vacuum.
27. (C) One can use the MAX function to find the highest number in a series of numbers.
28. (C) A terrestrial ecosystem is an ecosystem found only on landforms. Six primary terrestrial ecosystems which exist are tundra, taiga, temperate deciduous forest, tropical rain forest, grassland and desert.
29. (A) Money is referred to as a measure of value and prices. Because the market enables any commodity to be turned into money and money into any commodity, objective exchange value is expressed in terms of money. It is a price index.
32. (A) The highest temperature ever recorded on Earth was 136 Fahrenheit ( 58 Celsius) in the Libyan desert (El Azizia).
The coldest temperature ever measured was ( -126 ) Fahrenheit or $(-88)$ Celsius. at Vostok Station in Antarctica.
33. (A) A lichen is not a single organism. It is a stable symbiotic association between a fungus and algae and/or cyanobacteria. Like all fungi, lichen fungi require carbon as a food source. This is provided by their symbiotic algae and/or cyanobacteria that are photosynthetic. The lichen symbiosis is thought to be a mutualism, since both the participants benefit.
35. (D) Ujjain (Avanti, Avantikapuri), an ancient city of Malwa region is in central India on the eastern bank of the Kshipra River. Today it is the part of the state of Madhya Pradesh. Avanti with its capital at Ujjaini is mentioned in Buddhist literature as one of the four great powers along with Vatsa, Kosala and Magadha.
36. (A) The Ajanta Caves is in Aurangabad district of Maharashtra. The caves include paintings and sculptures considered to be masterpieces of Buddhist religious art (which depict the Jatak tales). The Ajanta cave paintings depict the life of Gautam Buddha.
38. (C) The most prevalent bulk material for solar cells is crystalline silicon (abbreviated in a group as c-Si,). It is also known as "solar grade silicon".
40. (A) The 40th parallel north is a circle of latitude that is 40 degrees north of the Earth's equatorial plane. It crosses Europe, the Mediterranean Sea, Asia, the Pacific Ocean, North America, and the Atlantic Ocean.
44. (C) Aeroponics and hydroponics are both soilless agriculture techniques. Hydroponics is a science that deals with growing plants in water or in any inert growing medium that is void of any nutrients. All the required nutrients are provided via the nutrient solution used to water the plants.
46. (C) The Committee to Review arrangements for Institution Credit for Agriculture and Rural Development set up by the Reserve Bank of India under the Chairmanship of Shri B. Sivaraman, conceived and recommended the establishment of NABARD.
47. (C) Helium is lighter than air so it used in the deep divers for breathing. It is a nobel gas and belongs to the group of nonreactive gases.
48. (B) According to Charter Act of 1813 the whole of the of the country was to be open to the Christian missionaries.
49. (B) Planning Commission is not a constitutional body. This was set up by resolution of the government of India in march 1950 in pursuance of declared objectives of the Government to promote a rapid rise in the standard of living of the people by efficient exploitation of the resources of the country, increasing production and offering opportunities to all for employment in the service of the community.
50. (C) BRICS is an acronym for the grouping of the world's leading emerging economies, namely Brazil, Russia, India, China and South Africa. The first BRIC Summit took place in 2009 in the Russian Federation and focused on issues such as reform of the global financial architecture. The theme for the 10th BRICS Summit was: "BRICS in Africa: Collaboration for Inclusive Growth and Shared Prosperity in the 4th Industrial Revolution".
51. (C)

$=\frac{1}{2+\frac{3}{4+\frac{5}{\frac{55}{8}}}}$

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$$
=\frac{1}{2+\frac{3}{4+\frac{8}{11}}}
$$

$$
=\frac{1}{2+\frac{3}{\frac{44+8}{11}}}
$$

$$
=\frac{1}{2+\frac{33}{52}}
$$

$$
=\frac{1}{\frac{104+33}{52}}
$$

$$
=\frac{52}{137}
$$

52. (A) ATQ,

$$
\frac{n(n+1)}{2}=703 \mathrm{~m} \quad \text { where } \mathrm{m}=1,2,3----
$$

for the least value of $n, m=1$

$$
\begin{aligned}
& \frac{n(n+1)}{2}=703 \\
\Rightarrow & \mathrm{n}(\mathrm{n}+1)=1406 \\
\Rightarrow & \mathrm{n}(\mathrm{n}+1)=37 \times 38 \\
\Rightarrow & \mathrm{n}=\mathbf{3 7}
\end{aligned}
$$

53. (B) ATQ,

$$
x+\frac{6}{x}=5 \quad \Rightarrow x=2
$$

and, $(y-x)^{3}=1$
$\Rightarrow(y-2)^{3}=1$
$\Rightarrow y-2=1$
$\Rightarrow y=3$
$\Rightarrow(x+y)^{2}=(2+3)^{2}$
$\Rightarrow(x+y)^{2}=5^{2}=25$
$\therefore(x+y)^{2}=\mathbf{2 5}$
54. (B) Let the distance between cities be $x$

Time taken by car $\mathrm{A}=\frac{x}{72}$
Time taken by car $\mathrm{B}=\frac{x}{90}$
ATQ,

$$
\frac{x}{72}-\frac{x}{90}=1
$$

$$
\begin{aligned}
& \Rightarrow \frac{5 x-4 x}{360}=1 \\
& \Rightarrow x=360 \\
& \therefore \quad x=\mathbf{3 6 0} \mathbf{k m}
\end{aligned}
$$

55. (A) $\left(3^{33}+3^{33}+3^{33}\right)\left(2^{33}+2^{33}\right)=6^{x}$

$$
\begin{aligned}
& \Rightarrow\left(3 \cdot 3^{33}\right)\left(2.2^{33}\right)=6^{x} \\
& \Rightarrow 3^{34} \cdot 2^{34}=6^{x} \\
& \Rightarrow 6^{34}=6^{x} \\
& \Rightarrow x=\mathbf{3 4}
\end{aligned}
$$

56. (B)


According basic proportionality theorem ( $\mathrm{DE}|\mid \mathrm{BC}$ )

$$
\begin{aligned}
& \frac{A D}{A B}=\frac{D E}{B C} \\
& \Rightarrow \frac{8}{28}=\frac{D E}{20} \\
& \Rightarrow D E=\frac{8 \times 20}{28}=\frac{2 \times 20}{7}=\frac{40}{7} \mathrm{~cm} \\
& \text { Area of } \triangle \mathrm{ADE}=\frac{1}{2} \times \mathrm{AD} \times \mathrm{DE} \\
&=\frac{1}{2} \times 8 \times \frac{40}{7}=\frac{160}{7} \mathrm{~cm}^{2} \\
& \therefore \quad \text { Required Area }=\frac{\mathbf{1 6 0}}{\mathbf{7}} \mathbf{c m}^{2}
\end{aligned}
$$

57. (D) Let the number be N

ATQ,
$N=6 q_{1}+5$
$\mathrm{N}=5 \mathrm{q}_{2}+3$
Multiplying equation (i) by 5
and equation (ii) by 6
$5 \mathrm{~N}=30 \mathrm{q}_{1}+25$ $\qquad$
$6 \mathrm{~N}=30 \mathrm{q}_{2}+18$
Substrate equation (iii) from equation (iv)
$6 N-5 N=30\left(q_{2}-q_{1}\right)+18-25$
$\Rightarrow N=30\left(q_{2}-q_{1}-1+1\right)-7$
$\Rightarrow \mathrm{N}=30\left(\mathrm{q}_{2}-\mathrm{q}_{1}-1\right)+30-7$
$\Rightarrow \mathrm{N}=30 x+23$
$\left[x=\left(\mathrm{q}_{2}-\mathrm{q}_{1}-1\right)\right]$
for least value of $\mathrm{N}, x=0$
$\mathrm{N}=23$

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$\therefore$ Required number $=23$
$\therefore$ Required sum of digit of number $=2+3=\mathbf{5}$
58. (C) Let $\mathrm{CP}=₹ 100$

$$
\begin{aligned}
& \mathrm{MP}=100+25 \% \text { of } 100=₹ 125 \\
& \begin{aligned}
\mathrm{SP} & =₹ 125-10 \% \text { of } 125 \\
& =₹ 125-12.5=112.5
\end{aligned}
\end{aligned}
$$

Profit $=\frac{12.5}{100} \times 100=\mathbf{1 2 . 5 \%}$
59. (B) CP : 15 mango $\longrightarrow ₹ 20 \Rightarrow 60$ mangoes $\rightarrow ₹ 80$ SP: 20 mango $\longrightarrow ₹ 15 \Rightarrow 60$ mangoes $\rightarrow ₹ 45$
As, $\mathrm{SP}<\mathrm{CP} \Rightarrow$ Loss
$\operatorname{loss} \%=\frac{80-45}{80} \times 100=\frac{35}{80} \times 100$
Loss $=43 \frac{3}{4} \%$
60. (B) Let the principal be $₹ x$ and time $y$ years ATQ,

$$
\frac{x \times 10 \times y}{100}=35-x
$$

$\Rightarrow y=\frac{35-x}{x} \times 10$
$\& \frac{x \times 8 \times y}{100}=30-x$
$\Rightarrow y=\frac{(30-x)}{x} \times 12.5$
Equation (i) and (ii)

$$
\frac{10}{x}(35-x)=\frac{12.5}{x}(30-x)
$$

$\Rightarrow 350-10 x=375-12.5 x$
$\Rightarrow 2.5 x=25$
$\Rightarrow \mathrm{x}=₹ 10$
$\Rightarrow y=\frac{35-10}{10} \times 10=25$ years
$\therefore$ Required time $\mathbf{=} \mathbf{2 5}$ years
61. (A)


Required Area $=\frac{70^{\circ}}{360^{\circ}} \pi r^{2}+\frac{50^{\circ}}{360^{\circ}} \pi r^{2}+$

$$
\begin{aligned}
& \frac{60^{\circ}}{360^{\circ}} \pi r^{2} \\
= & \frac{\pi r^{2}}{360^{\circ}}\left(70^{\circ}+50^{\circ}+60^{\circ}\right) \\
= & \frac{\pi r^{2}}{2}=\frac{22}{7} \times 14 \times 14 \times \frac{1}{2} \\
= & 308 \mathbf{~ m}^{2}
\end{aligned}
$$

62. (B) $\tan 65^{\circ}-\tan 20^{\circ}-\tan 65^{\circ} \cdot \tan 20^{\circ}$
$=\tan \left(45^{\circ}+20^{\circ}\right)-\tan 20^{\circ}-\tan \left(45^{\circ}+20^{\circ}\right)$. $\tan 20^{\circ}$
$\frac{\tan 45^{\circ}+\tan 20^{\circ}}{1-\tan 45^{\circ} \tan 20^{\circ}}-\tan 20^{\circ}-\frac{\tan 45^{\circ}+\tan 20^{\circ}}{1-\tan 45^{\circ} \tan 20^{\circ}}$
$\times \tan 20^{\circ}$
$=\frac{1+\tan 20^{\circ}}{1-\tan 20^{\circ}}-\tan 20^{\circ}-\frac{1+\tan 20^{\circ}}{1-\tan 20^{\circ}} \times \tan 20^{\circ}$
$=\frac{1+\tan 20^{\circ}-\tan 20^{\circ}+\tan ^{2} 20^{\circ}-\tan 20^{\circ}-\tan ^{2} 20^{\circ}}{1-\tan 20^{\circ}}$
$=\frac{1-\tan 20^{\circ}}{1-\tan 20^{\circ}}=\mathbf{1}$
63. (C)


ATQ,
$\angle \mathrm{ACB}=\angle \mathrm{CAD}+\angle \mathrm{ADC}$
$\Rightarrow 60^{\circ}=\angle \mathrm{CAD}+30^{\circ}$
$\Rightarrow \angle \mathrm{CAD}=30^{\circ}$
$\because \quad \angle \mathrm{CAD}=\angle \mathrm{CDA}$
$\therefore \quad \mathrm{AC}=\mathrm{CD}=20 \mathrm{~m}$
In $\triangle \mathrm{ABC}$
$\tan 60^{\circ}=\frac{\sqrt{3}}{1}=\frac{\mathrm{AB}}{\mathrm{BC}}$
$\therefore \quad \mathrm{AC}=\sqrt{(\mathrm{AB})^{2}+(\mathrm{BC})^{2}}$
$\mathrm{AC}=\sqrt{(3)^{2}+(1)^{2}}=2$ units
ATQ, 2 units $=20 \mathrm{~m}$
1 unit $=10 \mathrm{~m}$
So, height of the tower $=\sqrt{3}$ units $=\mathbf{1 0} \sqrt{\mathbf{3}}$ metre

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64. (C) Only liquid B is filled. so, A remains same

| A | $: \mathrm{B}$ |
| :---: | :--- |
| $5 \times 2$ | $: 3 \times 2$ |
| $2 \times 5$ | $: 3 \times 5$ |
| 10 | $:$ |
| 10 | $:$ |
| 10 | 15 |$>9$ units

ATQ,
9 units = 9 litre
So, initial mixture $=(10+15)=25$ units 25 units $=25$ litres
Quantity of A in initial mixture
$=\frac{25}{(5+3)} \times 5=\frac{125}{8}=\mathbf{1 5} \frac{\mathbf{5}}{\mathbf{8}}$ litre.
65. (B)

$\angle \mathrm{QPR}=\frac{1}{2} \angle \mathrm{QCR}=\frac{130^{\circ}}{2}=65^{\circ}$
In $\triangle \mathrm{PQS}$,
$\angle \mathrm{QPS}=180^{\circ}-\angle \mathrm{PQS}-\angle \mathrm{PSQ}$

$$
=180^{\circ}-60^{\circ}-90^{\circ}=30^{\circ}
$$

So, Required angle $\angle \mathrm{RPS}=65^{\circ}-30^{\circ}=35^{\circ}$
66. (D)


So, required time $=\frac{36}{9-4}=\frac{36}{5}$

$$
=7 \frac{1}{5} \mathrm{hrs} \text { or } 7 \mathrm{hrs} 12 \mathrm{~min}
$$

67. (D) Let Ajay and Vijay's Present age be $2 x$, and $3 x$, 4 years ago their age was $2 x-4,3 x-4$ ATQ,
$2 x-4: 3 x-4=3: 5$
$\Rightarrow \frac{2 x-4}{3 x-4}=\frac{3}{5}$
$\Rightarrow 10 x-20=9 x-12$
$\Rightarrow x=20-12=8$
Vijay's present age $=3 x=\mathbf{2 4}$ years
68. (C) ATQ,
$12 \mathrm{~A}=16 \mathrm{~B}=15 \mathrm{C}$
$\Rightarrow \mathrm{A}: \mathrm{B}: \mathrm{C}=\frac{1}{12}: \frac{1}{16}: \frac{1}{15}$

$$
\begin{aligned}
\Rightarrow \mathrm{A}: \mathrm{B}: \mathrm{C} & =16 \times 15: 12 \times 15: 12 \times 16 \\
& =4 \times 5: 3 \times 5: 4 \times 4 \\
\Rightarrow \mathrm{~A}: \mathrm{B}: \mathrm{C} & =\mathbf{2 0}: \mathbf{1 5}: \mathbf{1 6}
\end{aligned}
$$

69. (C) Average of n numbers in $\mathrm{AP}=$ middle term Average of 35 even numbers (A.P) $=18^{\text {th }}$ term
$\Rightarrow 18^{\text {th }}$ term $=44$
let first term (smallest term) be a
$\mathrm{Tn}=\mathrm{a}+(\mathrm{n}-1) \mathrm{d}$
$\Rightarrow 44=\mathrm{a}+34$
$\Rightarrow \mathrm{a}=44-34=10$
70. (C) Let two number be $48 x, 48 y$
where $x, y$ are coprime
ATQ,
$48 x+48 y=384$
$\Rightarrow x+y=8$

## Possible Solutions

$x, y$ are coprime $\Rightarrow x=1, y=7$

$$
x=3, y=5
$$

$\Rightarrow 48 y-48 x=48(y-x)$
At $x=1$ and $y=7,48 y-48 x=48(7-1)=288$
At $x=3$ and $y=5,48 y-48 x=48(5-3)=96$
$\therefore$ Required difference $=\mathbf{2 8 8}$
71. (A) C.I $($ annually $)=₹ 10,00,000 \times \frac{10}{100}=₹ 100,000$
C.I(semiannually) $=₹ 10,00,000 \times \frac{5}{100}+$
₹ $10,00,000 \times \frac{5}{100}+₹ 10,00,000 \times \frac{5}{100} \times \frac{5}{100}$
$=50,000,+50,000+2500$
$=100,000+2500$
$\therefore$ Required difference $=\mathbf{₹} \mathbf{2 5 0 0}$
72. (B) Required angle $=\frac{360^{\circ}}{100} \times 10=\mathbf{3 6}^{\circ}$
73. (B) Printing cost $=35 \%=17500$

So, Royalty $=15 \%=\frac{17500}{35} \times 15=\mathbf{₹ 7 5 0 0}$
74. (D) ATQ,

Miscellaneous expenses $=4 \%=₹ 6000$
So, Binding cost - Royalty $=18-15=3 \%$

$$
\begin{aligned}
& \Rightarrow \quad 3 \%=\frac{6000}{4} \times 3 \\
& =₹ 4500
\end{aligned}
$$

75. (B) Required Percentage $=\frac{10}{35} \times 100$

$$
=28.57=\mathbf{2 8 . 6} \%
$$

## MEANINGS IN ALPHABETICAL ORDER

| Word | Meaning in English | Meaning in Hindi |
| :---: | :---: | :---: |
| Mangle | destroy or severely damage | नष्ट करना |
| Contort | Twist or bend out of normal shape | मरा' ड. नT |
| Repair | to restore in a good condition | मरम मत |
| Doleful | expressing sorrow | उ दा स |
| Mournful | expressing or inducing sadness | प才 ${ }^{\prime}$ का वुर $\overline{\text { ¢ }}$ |
| Debonair | charming, confident stylish dressed individual | जो वनां नद, विल यूप प ${ }^{\text {c }}$ |
| Officious | used to describe an annoying person who tries to tell | पेश प T न करने वा ला |
|  | other people what to do in a way that is not wanted |  |
| Exemplary | extremely good and deserving to be admired | अनु करप १ य |
| Extempore | made up or done without preparation | बिना तै य री वे |
| Variegated | full of variety | तरह तरह का |
| Cozy | friendly and pleasant, comfortable | आ रा म दT यक |
| Snug | fitting closely and tightly | चिप्ट $T$ हु आ |
| Jovial | full of happiness and joy | उ ल ला सू प ${ }^{\text {¢ }}$ |
| Tremulous | Shaking slightly because of nervousness | ड रप' क |
| Annoyed | feeling or showing angry and irritation | ना रा ज. T हा' ना, चिड |
| Vehemently | showing strong and often angry fellings | आ वे गपू प ${ }^{\text { }}$ |
| Frenetic | filled with excitement, ferocious | उ $=$ म $T$ |

## SSC MOCK TEST - 159 (ANSWER KEY)


76. (A) Change 'for' into 'to' because 'apparent' takes preposition 'to' not 'for'

Apparent/ Clear/ obvious to somebody
77. (A) Replace 'Had' with 'has' because sentence is in present perfect tense.
78. (D) Superficial :- Appearing to be true or real only until more examined closely
90. (B) The give sentence is based on active voice, where the correct structure is

## "have + past participle"

91. (B) 'adapt to':- become adjusted to new conditions

Ex:- A large organisation can be slow to adapt to change.
'adapt for' :- you change it to make it suitable for a new purpose or situation. Ex:- I heard that the studio is adapting that book for a movie.

Note:- If your opinion differs regarding any answer, please message the mock test and question number to $\mathbf{8 8 6 0 3 3 0 0 0 3}$

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

