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Home Assignment for **SSC CHSL 2019-20 Exam Aspirants**

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1. Select the most appropriate meaning of the given idiom.
At snail's pace
A. do something very carefully
B. be very persistent
C. do something very slowly
D. keep your moves secret
Ans. C
Sol.
'At snails pace' means doing any task at a very slow pace. So the correct answer will be option C.

2. **Direction:** Select the most appropriate meaning of the given idiom
Left-handed compliment
A. praise that is given directly
B. insulting someone in front of others
C. insulting remark appearing as praise
D. making fun of someone to tease them
Ans. C
Sol.
Left handed compliment : insulting remark appearing as praise
Hence option C is the correct answer.

3. Select the most appropriate meaning of the given idiom.
Mad as a hatter
A. superstitious B. very upset
C. eccentric D. old fashioned
Ans. C
Sol.
The idiom "mad as a hatter" refers to someone who is completely crazy; abnormal or insane. Thus, option C is the correct answer.

4. **Direction:** Select the most appropriate word for the given group of words
Place for collection of dried plant specimens
A. green house B. nursery
C. warehouse D. herbarium
Ans. D
Sol.
Let's understand the meaning of the given words:-
Green house :a structure enclosed and used for the cultivation or protection of plants
Nursery :a place where plants are grown, nurtured and sold out
Warehouse :a building for storing goods
Herbarium :a place for collection of dried plant specimens
Hence, option D is the correct answer.

5. Select the most appropriate word for the group of words.
One who is in charge of a museum or art gallery
A. monitor B. curator
C. instructor D. collector
Ans. B
Sol.
Let's first learn the meanings of the words:
Curator: One who is in charge of a museum or art gallery.
Monitor: a person who observes a process or activity to check that it is carried out fairly or correctly, especially in an official capacity.
Collector: a person who collects things of a specified type, professionally or as a hobby.
Instructor: a person who teaches something.
Out of the given options "curator" is the best choice. Hence, option (B) is the correct choice.

6. Select the most appropriate antonym of the given word.
EXAGGERATE
A. heighten B. amplify
C. compress D. overdo
Ans. C
Sol.
Exaggerate means to represent (something) as being larger, better, or worse than it really is. Compress means to decrease in size or volume and is the most appropriate antonym of the given word.
Overdo means to do something to an excessive degree.
Heighten means to increase or make something increase, especially an emotion or effect.
Amplify means to increase in intensity.
Hence, option C is the correct choice.

7. Select the most appropriate antonym of the given word.
SPARSE
A. dense B. strong
C. thin D. weak
Ans. A
Sol.
Sparse: not thickly grown or settled
Dense: closely compacted in substance.
Strong: having the power to move heavy weights or perform other physically demanding tasks.
Thin: with opposite surfaces or sides that are close or relatively close together.
Weak: lacking the power to perform physically demanding tasks; having little physical strength or energy.
Out of the given options "Dense" is the best choice. Hence, option (A) is the correct choice.

8. Choose the word which is nearly opposite in meaning to the given word.
Bland
A. Blah B. Insipid
C. Tame D. Lively
Ans. D
Sol. Bland = lacking strong features or characteristics and therefore uninteresting. (नरम)
Blah = something which is boring or without meaningful content. (बकवास)
Insipid = lacking flavor; weak or tasteless. (फीका)
Tame = not dangerous or frightened of people; domesticated. (वश में करना)
Lively = full of life and energy; active, outgoing and interesting. (रोचक)
Hence, option D is the correct answer.

9. Select the most appropriate antonym of the given word.
Outlandish
A. Droll B. Kinky
C. Common D. Grotesque
Ans. C
Sol. Outlandish => looking or sounding bizarre or unfamiliar; strange and unusual
Droll => curious or unusual in a way that provokes dry amusement
Kinky => involving or given to unusual sexual behaviour
Common => normal, usual; not strange or bizzare
Grotesque => comically or repulsively ugly or distorted
So, option C is the correct answer.

10. In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
Please be patient. All your grievances will be _____.
A. settled B. satisfied
C. solved D. attended
Ans. A
Sol. A grievance is a real or imagined cause for complaint, especially unfair treatment.
Grievances can neither be satisfied not solved. They can either be settled or attended to. Due to the missing preposition, option D can also be eliminated.
Hence, option A is the correct answer.

11. In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
I _____ my black leather shoes till they shine.
A. scrub B. rub
C. brush D. polish
Ans. D
Sol. For shine, the shoes are polished specially the leather ones. They are neither scrubbed nor rubbed. Even brushing them doesn't give a shine.
Hence, option D is the correct answer.

12. **Direction:** In the sentence identify the segment which contains the grammatical error.
The promoters of Med Hospitals has agreed to sell their business to Pal Hospitals.

A. The promoters of
B. to sell their business
C. Med Hospitals has agreed
D. to Pal Hospitals
Ans. C
Sol.
As per the subject verb agreement plural subject always takes the plural verb after it. Therefore, we need to replace has' with 'have' in the given sentence to make it grammatically correct.
Hence, option C is the correct choice.

13. In the following sentence, four words or phrases have been underlined. One of them is incorrect. Select the incorrect word or phrase from the given options.
I am certain that the officer is not only greedy but corrupt.
A. is B. that
C. but corrupt D. I am
Ans. C
Sol. The error is in option C. The correct structure is "not only....but also". So, the word "also" is missing after "but".

14. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.
A) At this speed the rocket soon attained the height of 190 miles above the earth.
B) At 9 am the great rocket lifted in the air with a mighty roar.
C) It rose smoothly at first, then quickened to a speed of 17,500 miles an hour.
D) Gagarin now pulled himself towards the window to look down.
A. ADBC B. CBAD
C. BCAD D. BADC
Ans. C
Sol.
The correct rearrangement is BCAD.
The opening sentence gives us the idea of what the whole context is all about. The criteria is fulfilled by the sentence given in B.
Sentence B is followed by Sentence C which provides the details of the speed pertaining to the rocket with which it rose to the sky.
The speed further makes its mention in the sentence A as can be seen from the lines 'At this speed'.
Sentence D ultimately becomes the last sentence in the sequence.
Hence, option C is the correct choice.

15. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.
A) But once when Mark disturbed the whole class with his pranks, I had to reprimand him.
B) He was in third grade when I taught at Saint Mary's School.
C) All 34 students were dear to me, but Mark Eklund, was one in a million.
D) He had a happy-to-be-alive attitude that made even his occasional mischievousness delightful.
A. CBDA B. BADC
C. ADBC D. CADB
Ans. A
Sol.
The correct rearrangement is CBDA.
The opening sentence gives us the introduction of the subject. If you pay attention to the sentences only sentence c gives us the introduction of Mark Eklund for whom 'he' is used as a pronoun in the other sentences.
The second sentence gives more details about the subject. Therefore, the second sentence would be sentence B.
Sentence B is followed by sentence D which talks about his behaviour.
The last sentence is sentence A which provides a contrast to the preceding sentence i.e., D. Hence, option A is the correct choice.

16. If $x^2 + y^2 + 2x + 1 = 0$, then find the value of $(x^{31} + y^{35})$.
A. -1 B. 0
C. 1 D. 2
Ans. A
Sol. $x^2 + y^2 + 2x + 1 = 0$
$(x+1)^2 + y^2 = 0$

if sum of squares of two terms is 0, those terms are individually equal to 0.
Hence
x+1=0, x=-1
y=0
$(x^{31} + y^{35})=(-1)^{31} +0 = -1$

17. A person can swim 60 km in 2 hrs 30 min in upstream. If speed of the person is 5 times of the speed of current, then what is the time required to cover this distance in downstream?

A. $1\frac{1}{3} hrs$ B. $3\frac{1}{3} hrs$
C. 5 hrs D. none of these
Ans. D
Sol. Let the speed of current be x km/h. Then, the speed of the person would be 5x km/h.

Speed of the person in upstream = $\frac{60}{2.5}$ = 24 km/h
According to the question

$$5x - x = 24 \Rightarrow 4x = 24 \quad \therefore x = 6$$

Speed of the person in downstream = 5x6 + 6 = 36 km/h

Required time = $\frac{60}{36} = \frac{5}{3} = 1\frac{2}{3} hrs$

18. A sum of money becomes Rs. 3100 in 3 years and Rs. 6789 in 7 years on compound interest. Find the rate of compound interest?
A. 10.75 % B. 13.87 %
C. 21.64 % D. 33.67 %
E. 29.56 %
Ans. C
Sol. ⇒ If sum of money becomes Rs. x in t1 years and y in t2 years
⇒ Hence, y = Rs. 6789
⇒ x = Rs. 3100
⇒ t2 = 7 years, t1 = 3 years

$$\Rightarrow \left(1 + \frac{r}{100}\right)^{7-3} = \frac{6789}{3100} = \frac{219}{100}$$

$$\Rightarrow \left(1 + \frac{r}{100}\right)^{4} = \frac{219}{100}$$

$$\Rightarrow \left(1 + \frac{r}{100}\right) = 1.21_{64}$$

⇒ r/100 = 0.2164
∴ r = 21.64%

Check in the options to find the approximate answer

19. The sides of ΔABC are 10 cm, 10.5 cm and 14.5 cm. What is the radius of its circumcircle?
A. 7.5 cm B. 7.25 cm
C. 5 cm D. 5.25 cm
Ans. B
Sol.
The sides of ΔABC are 10 cm, 10.5 cm and 14.5 cm.
These sides can be written as : 10 × 2 , 10.5 × 2 , 14.5 × 2 = 20 ,21 , 29
These sides form a triplet .
Radius of circumcircle in case of right angled triangle = $\frac{H}{2} = 7.25\ cm$

20. $If\ a^2 + \frac{1}{a^2} = 6\ ;then\ find \frac{27a^3 + \frac{27}{a^3}}{a^4 + \frac{1}{a^4}}$?

A. $135\sqrt{2}$ B. $\frac{135\sqrt{2}}{34}$
C. $\frac{135\sqrt{2}}{17}$ D. $\frac{270\sqrt{2}}{17}$
Ans. C
Sol. Given that,

$$a^2 + \frac{1}{a^2} = 6$$

We know, $\left(a + \frac{1}{a}\right)^2 = a^2 + \frac{1}{a^2} + 2$

$$\Rightarrow \left(a + \frac{1}{a}\right)^2 = 6 + 2 = 8$$

$$\left(a+\frac{1}{a}\right)=2\sqrt{2}\ldots\ldots\ldots(i)$$

⇒

Multiplying 3 on both sides of (i)

$$\left(3a+\frac{3}{a}\right)=6\sqrt{2}$$

⇒

Taking cube on both sides

⇒

$$27a^3+\frac{27}{a^3}+3\times3a\times\frac{3}{a}\left(3a+\frac{1}{3a}\right)=432\sqrt{2}$$

$$27a^3+\frac{27}{a^3}+27\times6\sqrt{2}=432\sqrt{2}$$

⇒

⇒

$$27a^3+\frac{27}{a^3}=432\sqrt{2}-162\sqrt{2}=270\sqrt{2}\ldots\ldots$$

Now take squares on both sides of given

$$a^2+\frac{1}{a^2}=6$$

$$a^4+\frac{1}{a^4}+2=36$$

⇒

$$a^4+\frac{1}{a^4}=34\ldots\ldots\ldots(iii)$$

⇒

From (ii) and (iii)

$$\therefore\frac{27a^3+\frac{27}{a^3}}{a^4+\frac{1}{a^4}}=\frac{270\sqrt{2}}{34}=\frac{135\sqrt{2}}{17}$$

21. Ram and Suresh are standing on two points 300 m apart from each other. They start running with speeds of 12 km/h and 15 km/h respectively in the same direction. What is distance covered by Suresh to catch Ram?

A. 2000 m B. 1200 m
C. 1000 m D. 1500 m

Ans. D

Sol. speed of ram = 12km/h
speed of suresh = 15km/h

Relative speed = (15 – 12) $\frac{5}{18}$ = $\frac{5}{6}$ m/s

Total distance between them = 300 m

Required time = $\frac{300\times6}{5}$ = 360 sec

Distance covered by Suresh = 15 × $\frac{5}{18}$ × 360 = 1500 m

22. A villager buys a goat and a sheep together for Rs 14,250. He sold the sheep at a profit of 10% and the goat at a loss of 20%. If he sold both the animals atthe same price, then what was the cost price of the cheaper animal?

A. 8250 B. 6600
C. 7500 D. 6000

Ans. D

Sol. 10% = 10/100 = 1/10
Means, if we say 10% profit it means there is a profit of 1 on every 10 Rs.
20% = 20/100 = 1/5
and if we say 20% loss it means there is a loss of 1 on every 5 Rs.
Now, according to the question
On comparing C.P. and S.P. and on making selling price of Goat of Sheep same as per the question-

		C.P.	S.P.
Goat	→	$5_{\times11}$	$4_{\times11}$
Sheep	→	$10_{\times4}$	$11_{\times4}$
Goat	→	55	44
Sheep	→	40	44

So, our total CP becomes (40+55) if the selling price of both are same i.e. 44.

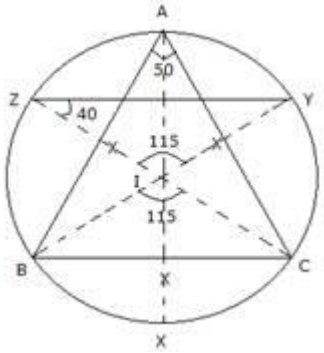
Total → 95 88 (x150)
(x150) 14250 13200

∴ C.P of sheep = 40 units = 40×150 = 6000

23. In a triangle ABC, angle bisector of ∠A, ∠B & ∠C cuts circumcircle at X, Y, Z respectively. If ∠CZY = 40 & ∠A = 50, then, find ∠BYZ?

A. 30 degree B. 25 dgree
C. 20 degree D. 60 degree

Ans. B



Sol.
Because I is the intersection point of all angle bisectors so I will be in centre, hence
$\angle BIC = 90 + \frac{\angle A}{2} = 115$
$\angle ZIY = \angle BIC = 115$ (Vertical opposite angles)
In ΔZIY,
$\angle BYZ = 180 - 115 - 40 = 25$.
$\therefore \angle BYZ$ is 25^0

24. If the points (3,4),(7,12) & (k+1,k-2) are collinear find value of k.
A. 4 B. -4
C. -2 D. 2
Ans. C
Sol. A, B and C are collinear.

If two lines are parallel they have equal slope, so we will equate slope of AB and BC

$$\frac{12-4}{7-3} = \frac{k-2-4}{k+1-3} \Rightarrow 2 = \frac{k-6}{k-2}$$
$$\Rightarrow 2k - 4 = k - 6$$
$$\Rightarrow k = -2$$

25. If the difference between area of the circumcircle and the incircle of an equilateral triangle is 115.5 cm^2. The altitude of the triangle is:
A. cm B. $3.5\sqrt{3}$ cm
C. $14\sqrt{3}$ cm D. None of these
Ans. D
Sol. Let the side of equilateral triangle be A.
Hence, radius of circumcircle and incircle will be $\left(\frac{A}{\sqrt{3}}, \frac{A}{2\sqrt{3}}\right)$ respectively.
$\pi\left[\left(\frac{A}{\sqrt{3}}\right)^2 - \left(\frac{A}{2\sqrt{3}}\right)^2\right]$ = 115.5
A = $7\sqrt{3}$ cm
Altitude of triangle = $\frac{\sqrt{3}}{2} \times A = \frac{\sqrt{3}}{2} \times 7\sqrt{3}$
= 10.5 cm

26. The side of equilateral triangle is 9 cm which is base of right prism. If the volume of prism is 324√3 cc. Find the height of the right prism?
A. 20 cm B. 15 cm
C. 19 cm D. 13 cm
E. 16 cm
Ans. E
Sol. here , Area of base = √3/4 × side^2
⇒Area of base = √3/4 × 9 × 9 = 81√3/4 cm^2
⇒Volume of Prism = Area of base × height
⇒324√3 = 81√3/4 × height
⇒Height of prism = 16 cm
∴Answer is 16 cm

27. The number of prime factors in $6^{333} \times 7^{222} \times 8^{111}$
A. 1221 B. 1222
C. 1111 D. 1211
Ans. A
Sol. $6^{333} \times 7^{222} \times 8^{111}$
$= (2 \times 3)^{333} \times 7^{222} \times 2^{3^{111}}$
$= 2^{333} \times 3^{333} \times 7^{222} \times 2^{333}$
$= 2^{666} \times 3^{333} \times 7^{222}$
Therefore number of prime factors = 666 + 333 + 222 = 1221
Hence Option A is correct

28. The value of (1 + cotθ – cosecθ) (1 + cosθ + sinθ) secθ = ?
A. 2 B. sinθ cosθ

C. secθcosecθ D. -2
Ans. A
Sol.

$$(1+\cot\theta-\operatorname{cosec}\theta)(1+\cos\theta+\sin\theta)\sec\theta$$
$$=\left(1+\frac{\cos\theta}{\sin\theta}-\frac{1}{\sin\theta}\right)(1+\cos\theta+\sin\theta)\sec\theta$$
$$=\frac{(\sin\theta+\cos\theta-1)}{\sin\theta}\frac{(\sin\theta+\cos\theta+1)}{\cos\theta}$$
$$=\frac{(\sin\theta+\cos\theta)^2-1}{\sin\theta.\cos\theta}$$
$$=\frac{\sin^2\theta+\cos^2\theta+2\sin\theta.\cos\theta-1}{\sin\theta.\cos\theta}$$
$$=\frac{2\sin\theta.\cos\theta}{\sin\theta.\cos\theta}=2$$

29. Simplify $\frac{\sin(x+z)+\sin(x-z)+2\sin x}{\sin(y+z)+\sin(y-z)+2\sin y}$?

A. $\tan x\tan y$ B. $\frac{\sin x}{\cos y}$

C. $\frac{\cos x}{\cos y}$ D. $\frac{\sin x}{\sin y}$

Ans. D
Sol.

$$\frac{\sin(x+z)+\sin(x-z)+2\sin x}{\sin(y+z)+\sin(y-z)+2\sin y}$$
$$=\frac{2\sin x\cos z+2\sin x}{2\sin y\cos z+2\sin y}$$
$$=\frac{2\sin x(\cos z+1)}{2\sin y(\cos z+1)}$$
$$=\frac{\sin x}{\sin y}$$

30. The value of

$$3\frac{1}{5}-\left[2\frac{1}{2}-\left\{\frac{5}{6}-\left(\frac{2}{5}+\frac{3}{10}-\frac{4}{15}\right)\right\}\right]$$ is:

A. $\frac{6}{5}$ B. $\frac{9}{10}$

C. $\frac{11}{10}$ D. $\frac{13}{5}$

Ans. C
Sol.
On simplifying the above expression
16/5 – 5/2 + 5/6 – 2/5 -3/10 + 4/15
(96-75+25-12-9+8)/30 = 33/30 = 11/10

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