

Lockdown 4.0 Study Plan Day 1



1. Lycopene, Carotene, Capsanthin are present in _____.
A. Leucoplast
B. Gerontoplast
C. Chromoplast
D. Chloroplast
2. Drosera is a very famous _____.
A. Herbicide
B. Insectivore
C. Parasitic
D. Aquatic Plant
3. Addison's disease is caused by inefficiency of which gland?
A. Thyroid
B. Adrenal
C. Pituitary
D. Pancrea
4. The system of forces whose line of action meets at a common point is known as _____.
A. Concurrent forces
B. Collinear forces
C. Coherent forces
D. Coplanar forces
5. Fibrinogen globulins and albumins are major proteins present in which part?
A. WBC
B. Plasma
C. Hair
D. Platelets
6. Thermite reactions use as reducing agent?
A. Iron Oxide
B. Aluminium powder
C. Silver chloride
D. Zinc powder
7. Dark Reaction takes place in which part of leaves?
A. Stoma of Chloroplast
B. Stomata
C. Thylakoid of Chloroplast
D. Protoplast
8. Who discovered Ozone layer?
A. Louis Pasteur
B. Charles Fabry

- C. William Faraday
D. Robert Angus Smith
9. Who invented Rabies immunization?
A. Louis Pasteur
B. B Franklin
C. Robert Young
D. Emil von Behring
10. The source of Vitamin D is
A. Lemon
B. Sun rays
C. Orange
D. Cashewnut

Select the most appropriate meaning of the underlined idiom in the given sentence.

11. It is unfortunate that most people in the country are still living from hand to mouth.
A. consuming daily what little is earned
B. saving for the future generations
C. doing manual labour
D. earning wealth by selfish means

Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement

12. The India Consensus study highlight a benefits by adding domestic violence prevention approaches to current government policy.
A. highlight the benefits from added
B. highlight a benefit in addition
C. No improvement
D. highlights the benefits of adding

13. **Select the wrongly spelt word.**

- A. groggy
B. gritty
C. groovey
D. groom

Select the most appropriate idiom (in the context) to fill in the sentence.

14. She said she liked my hair, but it turned out to be _____ when she asked how long I'd been dyeing it.
A. a feather in one's cap
B. crocodile tears
C. close shave



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D. a left-handed compliment

Select the word which means the same as the group of words given.

15. Something which cannot be understood
A. infallible
B. incomprehensible
C. illegible
D. inexplicable

Select the most appropriate meaning of the given idiom.

16. Look sharp
A. to hurry
B. to start a journey
C. poke someone continuously
D. finish early

In the sentence, identify the segment which contains the grammatical error.

17. Regardless of class, income or race, parents believe that children who are bored after school should enrolled in extracurricular activities.
A. Regardless of class, income or race,
B. in extracurricular activities.
C. children who are bored after school
D. should enrolled

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution'.

18. Where you left your bag yesterday?
A. Where were you leaving
B. No substitution
C. Where did you leave
D. Where did you left

19. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

- A) He is a gifted volleyball player.
B) But now a days he does not play international matches.
C) It is because he had an accident last year.
D) Sanjay is my best friend.
A. DCAB
B. ABCD
C. DABC

D. CDBA

Select the most appropriate word to fill in the blank.

20. He _____ a heinous crime.
A. made
B. committed
C. occurred
D. happened

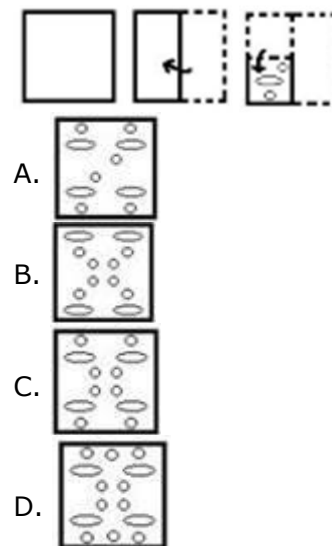
21. Select the figure that can replace the question mark (?) in the following series.

- A, T, E, U, I, V, O, W, ?, X
A. Z
B. U
C. R
D. M

22. Select the option that is related to the third number in the same way as the second number is related to the first number.

- 13 : 109 :: 24 : ?
A. 194
B. 197
C. 216
D. 201

23. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



24. In a certain code language, U is written as C, K is written as H, L is written

as U, N is written as E, S is written as L, E is written as K and C is written as N. How will 'KNUCKLES' be written as in that language?

- A. KECNHULK
- B. HECNHUKL
- C. KECNKUHL
- D. CHUECKN

25. Select the letter-cluster that can replace the question mark (?) in the following series.

aYd, fTi, kOn, pJs, ?

- A. uEw
- B. uEx
- C. VeX
- D. uFw

26. Select the option in which the number set shares the same relationship as that shared by the given number set.

(17, 24, 45)

- A. (18, 23, 46)
- B. (19, 26, 34)
- C. (15, 20, 43)
- D. (12, 19, 40)

27. 'Wheat' is related to 'Bread' in the same way as 'Sugarcane' is related to '_____':

- A. Mayonnaise
- B. Grass
- C. Jaggery
- D. Ketchup

28. If $a^5 + a^4 + a^3 + a^2 + a = -1$ and $(a < 1)$

then find the value of $a^{1317} + \frac{1}{a^{1317}} + 7a - 5$.

- A. 5
- B. -14
- C. 4
- D. 0

29. The present ages of Ajay and Vijay are in the ratio 4 : 3. Five years from now, their ages will be in the ratio 9 : 7. Then, Vijay's present age is :

- A. 34 years
- B. 30 years
- C. 22 years
- D. 26 years

30. Three solid metallic spheres whose radii are 1 cm, x cm and 8 cm are melted and recast into a single solid sphere of diameter 18 cm. the surface area (in cm^2) of the sphere with radius x cm is :

- A. 144π
- B. 100π
- C. 72π
- D. 64π

31. In ΔABC , $AB = 6$ cm, $AC = 8$ cm, and $BC = 9$ cm. The length of median AD is :

- A. $\frac{\sqrt{313}}{2}$ cm
- B. $\frac{\sqrt{119}}{2}$ cm
- C. $\frac{\sqrt{115}}{2}$ cm
- D. $\frac{\sqrt{317}}{2}$ cm

32. The value of $\frac{(\cos 9^\circ + \sin 81^\circ)(\sec 9^\circ + \csc 81^\circ)}{\sin 56^\circ \sec 34^\circ + \cos 25^\circ \csc 65^\circ}$ is:

- A. $\frac{1}{4}$
- B. 2
- C. 4
- D. $\frac{1}{2}$

33. Radha marks her goods 25% above the cost price. She sells 35% of goods at the marked price, 40% at 15% discount and the remaining at 20% discount. What is her overall percentage gain?

- A. 10
- B. 12. 75
- C. 11. 25
- D. 11. 75

34. A right circular cylinder of maximum volume is cut out from a solid wooden cube. The material left in what percent of the volume (nearest to an integer) of the original cube?

- A. 21
- B. 19
- C. 23
- D. 28

35. Anu sold an article for Rs 480 at some profit. Had she sold it for Rs 400, then there would have been a loss equal to



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one-third of the initial profit. What was the cost price of the article?

- A. Rs 450
- B. Rs 425
- C. Rs 420

D. Rs 430



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###ANSWERS###

1. Ans. C.

Lycopene, Carotene, Capsanthin are present in **Chromoplast**.

- **Chromoplast** is a plastid which contain carotenoids. Carotenoids are pigments responsible for yellow to red colour range in fruits and leaves of flowers.

- **Lycopene** is a carotenoid – a natural pigment that gives some vegetables and fruits their red color. For ex. In Tomatoes.

- **Carotenes** are orange, yellow and red pigments found largely in fruit, vegetables and dark green leafy vegetables. The carrot is an example of a root that gets its bright orange colour from carotenes.

2. Ans. B.

Drosera is a insectivore plant.

- Drosera, commonly known as the **sundews**.

- The tentacles on the leaves secrete a sticky fluid that shines in the sun like dew-drops, this attracts insects on leaves.

- Insectivorous plants are the ones that derive most of their nutrition from the insects they trap and consume.

3. Ans. B.

Addison's disease is caused by inefficiency of **adrenal cortex** to produce corticosteroids hormones.

- This disease shows symptoms of extreme weakness and fatigue, dehydration etc.

- Addison's disease is generally diagnosed by blood tests, urine tests, and medical imaging.

- Treatment involves replacing the absent hormones

4. Ans. A.

The system of forces whose line of action meets at a common is known as **Concurrent forces**.

- While **collinear forces** are those forces whose line of action lies along a single straight line.

- **Coplanar forces** are those forces which lie in a same plane.

5. Ans. B.

Fibrinogen, globulins and albumins are major blood proteins present in Plasma.

- Fibrinogen is a glycoprotein complex, which is essential for blood clot formation.

- Globulin play important role in liver function, blood clotting and fighting infection.

- Albumin serum normally constitutes about 50% of human plasma protein.

- Serum albumins are important in regulating blood volume by maintaining the oncotic pressure.

6. Ans. B.

Thermite reactions use **Aluminium powder** as a reducing agent.

- The reduction of a metal oxide to form metal by using aluminium powder as a reducing agent is called a thermite reaction.

- Thermite reactions are **exothermic** reactions.

- Production of Iron by reaction of iron oxide and aluminium powder is best ex. Of thermite reaction.

7. Ans. A.

- **The dark reaction also take place in Chloroplast but in stroma of the chloroplasts.**

- This is also known as the Calvin Cycle.

- The light reactions take place inside thylakoid and dark reactions take place outside thylakoid. In Dark Light reactions, the energy from ATP and NADPH is used to fix carbon dioxide (CO₂). The products of this reaction are sugar molecules and various other organic molecules necessary for cell function and metabolism.

- This means Dark reactions will fail to continue if the plants are deprived of light for too long since they use the output of the initial light-dependent reactions.

8. Ans. B.

- The ozone layer was discovered in 1913 by the French physicists **Charles Fabry**.

- Ozone layer presents in our atmosphere that absorbs most of the Sun's ultraviolet radiation.



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- The "Dobson unit" is a convenient measure of the amount of ozone.

9. Ans. A.

- Rabies Immunization was invented by **Louis Pasteur**.

- Rabies vaccines may be safely used in all age groups.

- The first rabies vaccine was introduced in 1885, and was followed by an improved version in 1908.

10. Ans. B.

Hence, Correct option is B.

11. Ans. A.

If someone lives hand to mouth or lives from hand to mouth, they hardly have enough food or money to live on.

For example: My father earned very little and there were four kids, so we lived from hand to mouth.

Hence, **option A** is the correct answer.

12. Ans. D.

The subject of the sentence is 'the Indian Consensus study' which is singular in nature. Therefore, the verb must also be singular i.e. **highlights** to maintain the subject-verb agreement. Also, the correct preposition is 'of'. We can also see that the noun "benefits" is of plural form. So, using article "a" is incorrect as it is used for singular countable nouns. We should rather use "the" in place of "a". Hence, **option D** is the correct answer.

13. Ans. C.

Option (C) is the wrongly spelt word. Its correct spelling is "groovy" which means fashionable and exciting.

Groggy means unenergetic or lethargic.

Gritty means harsh or coarse.

Groom means to prepare or train.

14. Ans. D.

Option "d" is the correct choice. "A left-handed compliment" is an idiom which means an insult in the guise of an expression of praise. In context of the sentence all the other options are wrong as the person was being mocked in the guise of compliment.

A feather in one's cap- A symbol of honor and achievement.

Crocodile tears- tears or expressions of sorrow that are insincere.

Close shave- a narrow escape from danger or disaster.

15. Ans. B.

The meanings of the words are:

Infallible: incapable of making mistakes or being wrong.

Incomprehensible: not able to be understood; not intelligible.

Illegible: not clear enough to be read.

Inexplicable: unable to be explained or accounted for.

Hence, **option C** is the correct answer.

16. Ans. A.

The idiom "Look sharp" means "to hurry".

Hence option A is the correct answer.

17. Ans. D.

In case of active voice, we use only the base form of the verb after modals like should, could, would, can, etc. In order to get the contextually meaningful and grammatically correct sentence, we will substitute 'enrolled' with 'enroll'. Therefore, option (D) is the correct answer.

18. Ans. C.

"Where you left" will be replaced with "Where did you leave" and the structure is as follows:

Where/What /Who + helping verb + subject + main verb + object.

Did is always followed by first form of the verb.

Hence, option C is the correct answer.

19. Ans. C.

Sentence D will be the first sentence as it introduces Sanjay (the main topic), all other sentences starts with pronouns, so they cannot be the first sentences of this sequence, as pronoun is used to modify some noun which has been used before. Sentence A will follow D as it describes the quality of Sanjay and it starts with pronoun, 'he' which has been used for Sanjay. Sentence B will follow sentence A as it contradicts the previous statement which is clear by the use of 'but' as but is used to show contradiction. Sentence C will follow sentence B as it shows the reason why Sanjay does not play now a days.

Hence, option C is the correct answer.

20. Ans. B.

Here option B is the correct answer.

"Commit" is used for crime, sinful acts, thus "commit" is the appropriate choice.



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21. Ans. B.

Given series consists of two series.

Series 1:

A, E, I, O, U (consecutive all the five vowel letters.)

Series 2:

$$T \xrightarrow{+1} U \xrightarrow{+1} V \xrightarrow{+1} W \xrightarrow{+1} X$$

Complete series is:

A, T, E, U, I, V, O, W, U, X

Hence, option B is the correct answer.

22. Ans. B.

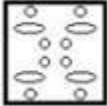
As, $13 \times 8 + 5 = 104 + 5 = 109$

Similarly, $24 \times 8 + 5 = 192 + 5 = 197$

Hence, option B is the correct answer.

23. Ans. C.

As given in the figure, we need to fold it in a book folding manner and Option C would appear when unfolded.



Hence, option C is the correct answer.

24. Ans. B.

As we know-

U is written as C,

K is written as H,

L is written as U,

N is written as E,

S is written as L,

E is written as K and

C is written as N.

So, KNUCKLES = HECNHUKL

Hence, the correct answer is option B.

25. Ans. B.

Pattern is-

$$a \xrightarrow{+5} f \xrightarrow{+5} k \xrightarrow{+5} p \xrightarrow{+5} u$$

$$Y \xrightarrow{-5} T \xrightarrow{-5} O \xrightarrow{-5} J \xrightarrow{-5} F$$

$$d \xrightarrow{+5} i \xrightarrow{+5} n \xrightarrow{+5} s \xrightarrow{+5} x$$

Hence, the correct answer is option B.

26. Ans. D.

As,

$17 + 7 = 24$; $24 + 21 = 45$

Similarly,

$12 + 7 = 19$; $19 + 21 = 40$

Hence, option D is the correct answer.

27. Ans. C.

The relationship is: Raw Material : Product

As,

Bread is made from wheat.

Similarly,

Jaggery is made from sugarcane.

Hence, option C is the correct answer.

28. Ans. B.

We know that -

$$(1 - x^n) = (1 - x)(1 + x + x^2 + x^3 + \dots)$$

Similarly,

$$(1 - a^6) = (1 - a)(1 + a^5 + a^4 + a^3 + a^2 + a)$$

$$a^5 + a^4 + a^3 + a^2 + a = -1 \text{ or } a^5 + a^4 + a^3 + a^2 + a + 1 = 0$$

After putting the value; we get -

$$(1 - a^6) = 0 \text{ or}$$

$$a^6 = 1$$

We take $a = -1$ ($a < 1$)

Required

$$a^{1317} + \frac{1}{a^{1317}} + 7a - 5$$

$$= -1 - 1 - 7 - 5$$

$$= -14$$

29. Ans. B.

Ajay's present age = 4x years

Vijay's present age = 3x years

According to the question,

After 5 years,

$$\frac{4x + 5}{3x + 5} = \frac{9}{7}$$

$$\Rightarrow 28x + 35 = 27x + 45$$

$$\Rightarrow x = 10$$

$$\Rightarrow x = 10$$

\therefore *Vijay's present age = 3x = 3 × 10 = 30 years*

Option B is correct.

30. Ans. A.

A. T. Q.

$$\frac{4}{3}\pi(1^3 + x^3 + 8^3) = \frac{4}{3}\pi \times 9^3$$

$$x^3 + 513 = 729$$

$$x^3 = 216$$

$$x = 6$$

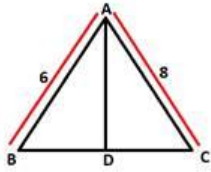
Required

Surface area of sphere of radius x -

$$= 4\pi \times 6^2 = 144\pi$$

31. Ans. B.





By Apollonius theorem,
 $AB^2 + AC^2 = 2(AD^2 + BD^2)$

Since AD is Median, So,

$$BD = \frac{BC}{2}$$

$$AB^2 + AC^2 = 2\left(AD^2 + \frac{BC^2}{4}\right)$$

$$36 + 64 = 2\left(AD^2 + \frac{81}{4}\right)$$

$$AD^2 = 50 - \frac{81}{4} = \frac{119}{4}$$

$$AD = \frac{\sqrt{119}}{2}$$

32. Ans. B.

If $x + y = 90^\circ$

Then,

$$\frac{\sin x}{\cos y} = 1 = \frac{\cos x}{\sin y}$$

$$\sin(90 - \theta) = \cos \theta$$

$$\operatorname{cosec}(90 - \theta) = \sec \theta$$

$$\frac{(\cos 9^\circ + \sin(90 - 9^\circ))(\sec 9^\circ + \operatorname{cosec}(90 - 9^\circ))}{\frac{\sin 56^\circ}{\cos 34^\circ} + \frac{\cos 25^\circ}{\sin 65^\circ}}$$

$$= \frac{2 \cos 9^\circ \times 2 \sec 9^\circ}{2}$$

$$= \frac{4}{2} \times \cos 9^\circ \times \frac{1}{\cos 9^\circ}$$

$$= 2$$

33. Ans. C.

Let the total no. of goods = 100

Cost price of one good = 100

M. P. of one good = 125

A. T. Q.

S. P. of 100 goods

$$= 35 \times 125 + 40 \times 125 \times \frac{85}{100} + 25 \times 125 \times \frac{80}{100}$$

$$= 35 \times 125 + 50 \times 85 + 125 \times 20$$

$$= 4375 + 4250 + 2500$$

$$= 11125$$

C. P. of 100 goods = $100 \times 100 = 10000$

Profit = $11125 - 10000 = 1125$

$$\text{Profit \%} = \frac{1125}{10000} \times 100 = 11.25\%$$

34. Ans. A.

When the right circular cylinder of maximum volume is cut out from wooden

cube of side a , then

$$r = \frac{a}{2}, h = a$$

Volume of cylinder

$$= \pi r^2 h = \pi \times \frac{a^2}{4} \times a = \frac{\pi a^3}{4}$$

Volume of Cube = a^3

Required

$$= \frac{a^3 - \frac{3.14a^3}{4}}{a^3} \times 100 = 21\%(\text{nearest integer})$$

35. Ans. C.

Let the C. P. = x

A. T. Q.

Let the profit is = k

Then, $400 + k = 480 - 3k = \text{C. P.}$

$$4k = 80$$

$$k = 20$$

Hence, C. P. = $400 + 20 = 420$



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