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Lockdown 4.0 Study Plan
Day 13

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1. Somatostatin hormone affects which of the following?
A. Neurotransmission
B. Nervous system
C. Cell Proliferation
D. Both A and C

2. How much ml of urine are normally produced every day in a healthy human body?
A. 800-2000 ml
B. 500-1500 ml
C. 800-300 ml
D. 700-2500 ml

3. Yeast is a_____
A. Bacteria
B. Fungi
C. Algae
D. Bryophyte

4. Cod liver oil from fish is rich in which vitamin?
A. Vitamin A
B. Vitamin D
C. Vitamin C
D. Vitamin B

5. Which instrument is used to measure relative density of liquids?
A. Ellipsometer
B. Dynamometer
C. Hydrometer
D. Hygrometer

6. Convex mirror is generally used in _____.
A. Solar cookers
B. ophthalmoscope
C. reflector for head light
D. rear view mirror

7. Which of the following machines is used to change the direction of application of a force?
A. Pulley
B. Wheel
C. Wedge
D. Screw Jack

8. Which of the following statements is **not correct** about geostationary satellites?
A. A geostationary orbit can be achieved only at an altitude very close to 35,786 km.
B. A geostationary orbit can be achieved directly above the equator.
C. The time period of a geostationary satellite is 30 hours
D. None of these

9. Oil gas is obtained by
A. Thermal cracking of kerosene
B. Biogas
C. From liquefied petroleum gas
D. From compressed natural gas

10. Which acid is present in Rancid butter?
A. Citric acid
B. Acetic acid
C. Maleic acid
D. Butryic acid

11. Which of following is Tribasic acid?
A. H_2SO_4
B. HNO_3
C. H_3PO_4
D. HCl

12. Which solvent is considered as the best solvent?
A. Largest dielectrical constant
B. Smallest dielectrical constant
C. With higher solute particles
D. Less concentrated

13. The metal used to recover copper from a solution of copper sulphate is
A. Sodium
B. Silver
C. Mercury
D. Iron

14. What is the reaction between an acid and a base called?
A. Desalination
B. Crystallization
C. Neutralization
D. Sublimation

15. What is the numerical value of the Avogadro constant?
A. 4.8×10^{10}
B. 9.1×10^{-31}

C. 6.023×10^{-23}
D. 6.023×10^{23}

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

16. A) There are many gadgets that are operated by a remote control and contain a silicon chip.
B) This produces an infra-red beam, made up of electromagnetic waves.
C) When a button is pressed on the remote control, the chip sets off an electronic vibration.
D) The beam carries a coded signal for operating the systems.
A. ACDB
B. ACBD
C. BACD
D. ADCB

Identify the part of the sentence that contains the grammatical error.

17. Lucy has already cut the cake when we reached the party hall.
A. cut the cake
B. Lucy has already
C. when we reached
D. the party hall

Select the most appropriate word to fill in the blank.

18. Health should be our first priority and should never be _____.
A. neglected
B. discarded
C. declined
D. suspended

Identify the best way to improve the underlined part of the given sentence. If there is no improvement required, select 'no Improvement'.

19. Raul went there with a view **<u>to insult</u>** John.
A. to insulting
B. of insulting
C. for insulting
D. No improvement

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

20. I visited my friend to whom I had made an appointment.
A. I visited my friend
B. I had made
C. to whom
D. an appointment

Select the most appropriate option to fill in the blank.

21. Dividing the land will not _____ the interest of either of the parties or secure a lasting sense of peace and _____.
A. pressurize; admire
B. subserve; tranquility
C. daunt; afflict
D. block; bungle

22. Read the following information and answer the questions given below it:
'A + B' means 'A is the son of B'.
'A – B' means 'A is the wife of B'.
'A × B' means 'A is the sister of B'.
'A ÷ B' means 'A is the brother of B'.
'A = B' means 'A is father of B'.
1. If M × N – P ÷ T + Q, what is Q to P?
A. Father
B. Mother
C. Mother-in-law
D. Can't be determined

23. Select the number group in the options which is similar to the given number-group.
(26, 69, 361)
A. (22, 44, 196)
B. (19, 76, 361)
C. (18, 59, 238)
D. (24, 69, 514)

24. Which number will replace the question mark (?) in the following series?
7, 19, 26, 45, 71, 116, 187, ?
A. 301
B. 312
C. 303
D. 289

25. In the following number series, two numbers have been put within brackets. Select the most appropriate option for these numbers in relation to their inclusion in the series.

8, 21, 32, (55), 60, 77, (729), 5463
A. The first bracketed number is correct and the second is incorrect.
B. The first bracketed number is incorrect and the second is correct.
C. Both the bracketed numbers are correct.
D. Both the bracketed numbers are incorrect.

26. A can finish a work in 20 days and B can finish the same work in 25 days. They began together, but B left the work after 5 days. How many more days will A take to finish the remaining work?
A. 21
B. 8
C. 16
D. 11

27. What should replace * in the number 94*2357, so that number is divisible by 11?
A. 8
B. 3
C. 1
D. 7

28. Two numbers are in the ratio 5 : 7. If the first number is 20, then the second number will be:
A. 28
B. 18
C. 8
D. 22

29. In ΔABC, if AB = AC and ∠BAC = 40°, then the measure of ∠B is:
A. 50°
B. 60°
C. 70°
D. 40°

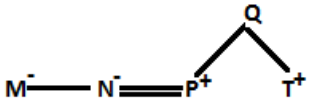
30. Two racers run at a speed of 100 m/min and 120 m/min, respectively. If the second racer takes 10 minutes less than the first to complete the run, then how long is the race?
A. 1 km
B. 6 km
C. 2 km
D. 4 km

###ANSWERS###

1. Ans. D.
Somatostatin is a **peptide hormone** that regulates the **endocrine system** and affects **neurotransmission** and **cell proliferation** via interaction with **G protein-coupled somatostatin receptors** and inhibition of the release of numerous secondary hormones.
• Somatostatin inhibits **insulin** and **glucagon secretion**
2. Ans. A.
800–2,000 milliliters (ml) of urine are normally produced every day in a healthy human. This amount varies according to fluid intake and kidney function.
3. Ans. B.
• *Yeasts are eukaryotic, single-celled microorganisms classified as members of the **fungus kingdom.***
• *Yeast*, the most common one being S. cerevisiae, is used in baking as a leavening agent.
4. Ans. B.
Cod liver oil from fish is rich in vitamin D. This helps in tackling autoimmune disease, high blood pressure, neurological issues among others.
5. Ans. C.
A **hydrometer** is an instrument that measures the specific gravity (relative density) of liquids - the ratio of the density of the liquid to the density of water.
6. Ans. D.
Convex mirror is used in the rear view mirror. These mirrors, which are also known as diverging mirrors, makes the object appear closer than what they are, which assists the driver/rider to have a better view of the traffic.
7. Ans. A.
• A **pulley** is a simple machine used to change the **direction** of **application** of a **force**.
• It consists of a **circular disc** or wheel made of **wood** or **metal** which can rotate freely about an axle passing through its centre.
8. Ans. C.
Statement **'C'** is not correct as the **time** period of a **geostationary satellite** is almost **24 hours**.
9. Ans. A.
Oil gas is obtained by thermal cracking of kerosene.
• **Thermal cracking** is a process in which hydrocarbons like crude oil are heated to break their molecular bonds & reduce the molecular weight of the substance. This process is used to extract usable components.
10. Ans. D.
Butyric acid is a fatty acid occurring in the form of esters in animal fats. The triglyceride of butyric acid makes up 3% to 4% of butter. When butter goes rancid, butyric acid is liberated from the glyceride by hydrolysis, leading to the unpleasant odour.
Chemical formula of butyric acid : $C_4H_8O_2$
11. Ans. C.
A tribasic acid is an acid that has three hydrogen ions to donate to a base in an acid-base reaction. Phosphoric acid (H_3PO_4) and citric acid are examples of tribasic acids.
Note :
Monobasic acids are acids which yield one free hydrogen ion in solution for each molecule of acid ionized. Example is hydrochloric acid (HCl).
Dibasic are acids which yield two free hydrogen ions in solution for each molecule of acid ionized. An example of a dibasic acid is sulphuric acid H_2SO_4.
12. Ans. A.
The **dielectric constant** of a solvent is a measure of its polarity.
• The higher the dielectric constant of a solvent, the more polar it is. So, the solvent with largest dielectrical constant is considered as the best solvent.
13. Ans. D.
Iron can be used to get copper from Copper Sulphate because it is more reactive than Copper. Since iron (Fe) is more reactive than copper (Cu) it will be 'plated' with copper when the metal iron is stuck in copper sulphate solution.
14. Ans. C.

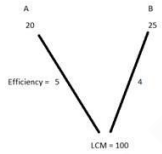
- In chemistry, neutralization or neutralisation is a chemical reaction in which an acid and a base react quantitatively with each other.
- The pH of the neutralized solution depends on the acid strength of the reactants. Neutralization is used in many applications.acid + base(alkali) → salt + water
- For example: HCl + NaOH → NaCl + H2O

15. Ans. D.
The number **6.023 × 10^{23}** is called **Avogadro's number**. The Avogadro constant is the number of constituent particles, usually **atoms** or **molecules**, that are contained in **one mole** of a substance. It is a **dimensionless** quantity. Avogadro's number may be designated using the symbol **L** or **N_A**.
16. Ans. B.
The use of "this" given in B is for the "electronic vibration" mentioned in C. This means B follows C. Also, B mentions the "infra-red beam" and its use (to carry a coded signal) is mentioned in D. This makes them a complementary pair. Hence, the only option that has CBD in the sequence is option B. Hence, it is the correct answer.
17. Ans. B.
Option B has the grammatically incorrect part. These two tenses are used to talk about things that happened in the past. However, we use past perfect to talk about something that happened before another action in the past, which is usually expressed by the past simple. The cake cutting ceremony happened first in the order; therefore, we will use past perfect tense here. Replace "has" with "had" to make the sentence grammatically correct.
18. Ans. A.
Let's first learn the meaning of the words:
Neglected = suffering a lack of proper care.
Discarded = get rid of (someone or something) as no longer useful or desirable.
Declined = diminish in strength or quality; deteriorate; politely refuse (an invitation or offer).
Suspended = temporarily prevent from continuing or being in force or effect.
The sentence emphasized the need of good health and how one should take proper care of it. Hence, the word "neglected" given in option A is our correct answer.
19. Ans. A.
The underlined segment must be replaced by option A. The phrase "with a view to + gerund (-ing)" is a fixed phrase. Insult cannot be associated with 'for' and 'of'. Phrase "to insult" is correct. Hence option A is the correct answer.
20. Ans. C.
Option C has the grammatically incorrect part. The error is in the segment 'to whom'. Whom is used to refer to people and *use of to with whom* makes it superfluous. So, 'to' must be removed from the sentence to form a grammatically correct sentence. Hence, **option C** is the correct answer.
21. Ans. B.
Let us understand the meaning of the given words:
Subserve- help to further or promote.
Tranquility- the quality or state of being tranquil; calm.
Pressurize- produce or maintain raised pressure artificially in (a gas or its container).
Daunt- make (someone) feel intimidated or apprehensive.
Afflict- cause pain or trouble to; affect adversely.
Block- make the movement or flow in (a passage, pipe, road, etc.) difficult or impossible.
Bungle- carry out (a task) clumsily or incompetently.
So, option B. is the correct choice. Out of the given options only "Subserve and Tranquility" is the best choice in the context of the sentence.
22. Ans. D.

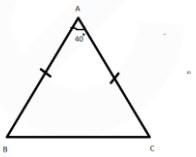


Sign (-) indicates femalE.
Sign (+) indicates malE.
P is the son of Q.

But gender of Q is not given, so, the relation of Q to P can't be determined
Option (d) is correct.
23. Ans. B.
As, $[(26+69)/5]^2=[95/5]^2=19^2=361$
Similarly,
$[(19+76)/5]^2=[95/5]^2=19^2=361$
Hence, the correct answer is option B
24. Ans. C.
Logic is-
7 + 19 = 26
19 + 26 = 45
26 + 45 = 71
45 + 71 = 116
71 + 116 = 187
116 + 187 = 303
So,
7, 19, 26, 45, 71, 116, 187, **303**
Hence, option C is the correct response.
25. Ans. D.
Logic-
8 × 3 - 3 = 21
9 × 4 - 4 = 32
10 × 5 - 5 = 45
11 × 6 - 6 = 60
12 × 7 - 7 = 77
77 × 8 - 8 = 608
608 × 9 - 9 = 5463
Complete Series is- 8, 21, 32, **45**, 60, 77, **608**, 5463
Hence, the correct answer is option D.
26. Ans. D.
Let total work =LCM(20,25) = 100 units



Efficiency of A = 5 unit per day
Efficiency of B = 4 unit per day
Work completed by B in 5 days = 20 units
Remaining work = 100 units – 20units = 80 units
Now this 80 units work is done by A.
Number of days taken by A to finish 80 unit work = 80/5 = 16 days
But for 5 days A and B worked together.
Hence, Number of more days taken by A to finish the remaining work = 16-5 = 11 days.
27. Ans. B.
Condition of divisibility by 11 is given by :
(Sum of digits at odd place)- (Sum of digits at even place) = 0 or any multiple of 11
Given that 94*2357 is divisible by 11.
⇒ (7+3+*+9) – (5+2+4) = 11k , where k is any non negative integer
⇒ (19+*) – (11) = 11k, where k is any non negative integer
⇒ 8+* = 11k, where k is any non negative integer
As * is a digit and 8+3 = 11.
Hence , * should be replaced by 3.
28. Ans. A.
Given Two numbers are in the ratio 5 : 7
Let first number = 5x
Second number = 7x
Now, the first number is 20
⇒ 5x = 20
⇒ x = 4
Hence , second number = 7x = 7×4 = 28
29. Ans. C.
Given, In ΔABC, if AB = AC and ∠BAC = 40°



We know that angles opposite to equal sides of an isosceles triangle are equal.
Hence, ∠B = ∠C …….(1)
As Sum of all angles of a triangle is 180°
⇒ ∠A + ∠B+ ∠C = 180°
From (1)
⇒ 40°+ 2∠B = 180°
⇒ 2∠B = 180°- 40°= 140°
⇒ ∠B =70°
30. Ans. B.
Given that Two racers run at a speed of 100 m/min and 120 m/min, respectively and second racer takes 10 minutes less than the first to complete the run.
We can easily observe that both racers cover equal distance.
If Distance is constant then speed is inversely proportional to time.

$$\Rightarrow \frac{\text{Speed of first racer}}{\text{Speed of second racer}} = \frac{100}{120} = \frac{5}{6}$$

$$\Rightarrow \frac{\text{Time taken by first racer}}{\text{Time taken by second racer}} = \frac{6}{5}$$

We can see that second racer takes 1 unit less than the first to complete the run.

According to question
1 unit = 10 mint
6 unit = 60 mint = 1 hour
Hence, First racer take 1 hour to complete the race.
Total Distance travelled by A= Speed × Time = $100 \times \frac{60}{1000} \times 1\ \text{km} = 6\ \text{km}$

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