Lockdown 3.0 Study Plan Day 9

1. What could be the function attributed to the transfusion tissue found in Cycas leaflets?
A. Mechancial
B. Conduction
C. Storage
D. Photosynthesis
Ans. B
Sol. The function of conduction is attributed to the transfusion tissue found in Cycas leaflets

2. Movement of cell against concentration gradient is called_____.
A. osmosis
B. active transport
C. diffusion
D. passive transport
Ans. B
Sol.
• **Active transport** is the only transport method that can move species against their concentration gradient.
• **Diffusion** is the net movement of molecules or atoms from a region of high concentration to a region of low concentration.
• **Passive transport** is a movement of ions and other atomic or molecular substances across cell membranes without need of energy input.

3. Root pressure of plants is measured by which instrument ?
A. Auxanometer
B. Galvanometer
C. Hydrometer
D. Sphygnomanometer
Ans. A
Sol.
* Root pressure is measured by an instrument called an **auxanometer.**
* The auxanometer measures plant growth as well as the pressure developed within the xylem cells of roots.

4. Which of following is site for cellular respiration?
A. Mitochondria
B. Golgi bodies
C. Ribosome
D. Nucleus
Ans. A
Sol.

* **Mitochondria** in the cell are the site of energy production and cellular respiration.
* The first step in cellular respiration is Glycolysis.
* Cellular respiration is an exothermic redox reaction.

5. Which of the following is anatomically **correct** for the human body?
A. Collar bones - 3 pairs
B. Salivary glands - 1 pair
C. Cranial nerves - 10 pairs
D. Floating ribs - 2 pairs
Ans. D
Sol.
• There are 2 pairs of floating ribs (11th and 12th). These ribs are imperfectly formed and do not reach the sternum.
• There are 2 pairs of Collar bones (Clavicle).
• There are 3 pairs of Salivary glands.
• There are 12 pairs of Cranial nerves.

6. Which part of nephron is impermeable to water ?
A. Proximal convulated tubule
B. Distal convulated tubule
C. Ascending limb of loop of hele
D. Descending limb of loop of henle
Ans. C
Sol.
• Tubular reabsorption is the process that moves solutes and water out of the filtrate and back into your bloodstream.
• The walls of the thick **ascending limb are impermeable to water**, so in this section of the nephron water is not reabsorbed along with sodium.

7. Name the unit of measurement used for amount of substance in the International system of units.
A. Mole
B. Tonne
C. Pound
D. Gallon
Ans. A
Sol. ● It is used to calculate the yield of industrial chemical reactions to know the amount of substance based on the number of atoms or molecules.
● At present, the value of mole using Avogrado's number is – 6.02×10^{23}.

8. Triple point of water in Kelvin is?
A. 0 K
B. 273.16K
C. 373.1339K
D. None of the above
Ans. B
Sol. •The **triple point** of a substance is the temperature and pressure at which the three phases (gas, liquid, and solid) of that substance coexist in thermodynamic equilibrium.
•The kelvin is defined as the fraction 1/273.16 of the thermodynamic temperature of the triple point of water. It is defined such that the triple point of water is exactly 273.16 K.

9. Small insects such as the water strider can walk on water because their weight is not enough to penetrate the surface. it is because of –
A. Surface tension
B. Viscosity
C. Specific gravity
D. Elasticity
Ans. A
Sol. •Surface tension is the elastic tendency of a fluid surface which makes it acquire the least surface area possible.
•Surface tension allows insects (e.g. water striders), usually denser than water, to float and stride on a water surface.
•At liquid–air interfaces, surface tension results from the greater attraction of liquid molecules to each other (due to cohesion) than to the molecules in the air (due to adhesion).

10. What is the intensity of normal conversation in decibel?
A. 30-40
B. 50-60
C. 100
D. 110-120
Ans. A
Sol. Sound intensity level also known as acoustic intensity. The rate at which sound energy passes through a unit area held perpendicular to the direction of propagation of sound waves is called intensity of sound.

11. **Direction:** Select the most appropriate meaning of the given idiom.
Lay in tatters
A. regardless of
B. in a ruined condition
C. in control or charge
D. be expensive
Ans. B
Sol.
The idiom 'lay in tatters' refers to clothes that are old and badly torn. Hence, option B is the correct answer.

12. **Direction:** Select the most appropriate meaning of the given idiom.
Wax and wane
A. start and stop
B. win and lose
C. increase and decrease
D. up and down
Ans. C
Sol.
The idiom 'wax and wane' means to increase and decrease, as in size, number, strength, or intensity. Hence, option C is the correct answer.

13. Select the most appropriate synonym of the given word.
Deficiency
A. Abundance
B. Efficiency
C. Sufficiency
D. Inadequacy
Ans. D
Sol.
Let's first learn the meaning of the words:
Abundance = a very large quantity of something.
Efficiency = the state or quality of being efficient.
Sufficiency = the condition or quality of being adequate or sufficient.
Inadequacy = lack of the quantity or quality required.
e.g. These supplies are **inadequate** to meet our needs.
Deficiency = a lack or shortage; a failing or shortcoming.
e.g. The disease may be caused by nutritional **deficiencies**.
Hence, option D is the correct answer.

14. Select the most appropriate word that means the same as the group of words given.
A short story with a moral, usually with animals as characters.
A. Hymn
B. Parody
C. Fable
D. Ode
Ans. C
Sol.
Hymn = a religious song or poem of praise to God or a god.
Parody = an imitation of the style of a particular writer, artist, or genre with deliberate exaggeration for comic effect.
Fable = a short story, typically with animals as characters, conveying a moral.
Ode = a lyric poem, typically one in the form of an address to a particular subject, written in varied or irregular metre.
Hence, option C is the correct answer.

15. **Direction:** Select the appropriate meaning of the given idiom.
To take the bull by the horns
A. to surrender to the enemy
B. to speak arrogantly
C. to handle difficulties
D. to murder someone
Ans. C
Sol.
The idiom 'to take the bull by the horns' means deal decisively with a difficult or dangerous situation. Hence, option C is the correct answer.

16. **Direction:** Select the correct indirect form of the given sentence.
"Hello", he said to his friend. "What can I do for you?"
A. He asked and greeted his friend that what he can do for him.
B. He greeted his friend and asked what he could do for him.
C. He told hello and asked his friend what he could do for him.
D. He said hello and asked his friend what can do for him.
Ans. B
Sol.
We use hello as a sign of hello. So, while converting to indirect speech hello will be converted to greeted. As the reported speech is in question form, said to will be converted to asked and as 'what' has been used, so no conjunction will be used because 'what' itself acts as a conjunction. Can will be converted to could. Imperative reported speech will be made in assertive form i.e. of subject + verb form. The 1st person pronoun will be changed according to the subject of the reporting speech i.e. I will be changed to he. The 2nd person pronoun will be changed according to the object of the reporting speech i.e. you will be changed to him. Hence, option B is the correct answer.

17. **Direction:** Select the correct indirect form of the given sentence.
"What a good idea!", Seema remarked.
A. Seema said what a good idea it is.
B. Seema told what an idea!
C. Seema exclaimed that it was a very good idea.
D. Seema exclaimed that the idea is good.
Ans. C
Sol.
This is a direct narration of exclamatory sentence and we will change it to indirect narration. Remarked will be changed to exclaimed according to the sense of the sentence. Inverted commas will be removed and conjunction 'that' will be used. As the reported speech starts with 'what', it will be changed to very in the indirect speech.
Hence, option C is the correct answer.

18. Directiuon: Select synonym of the given word.
RETAIN
A. gain
B. convey
C. maintain
D. destroy
Ans. C
Sol.
Let's understand the meaning of given words:
Retain: to keep or to continue
E.g.: the dam retains the water
Convey: to transport
Maintain: cause to remain in a certain state, position, or activity

E.g.: standing her ground was the only way to maintain control
Hence, option C is the correct answer.

19. Select the word which means the same as the given group of words.
A sudden rush of a large number of frightened people or animals.
A. scapegoat
B. lunacy
C. stampede
D. recluse
Ans. C
Sol.
Scapegoat: Someone who is punished for the errors of others
Lunacy: Obsolete term for legal insanity
Stampede: Cause a group or mass of people to act on an impulse or hurriedly and impulsively
Recluse: One who lives in solitude
Hence, option C is the correct answer.

20. In a certain code language, BREATHER is coded as 29512859. How will AVIATION be coded as in that language?
A. 14912956
B. 14912965
C. 12912954
D. 12910965
Ans. B
Sol.
The pattern is:

B	R	E	A	T		H	E	R
2	1+8=9	5	1	2+0=2		8	5	1+8=9

Thus, BREATHER = 29512859
Similarly,

A	V	I	A	T		I	O	N
1	2+2=4	9	1	2+0=2		9	1+5=6	1+4=5

Thus, AVIATION = 14912965
Hence, option B is the correct answer.

21. 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

Ans. B
Sol.
As,13*8+5=104+5=109
Similarly, 24*8+5=192+5=197
Hence, option B is the correct answer.

22. Four words have been given, out of which three are alike in some manner and one is different. Select the odd word.
A. Liver
B. Renin
C. Pancreas
D. Kidney
Ans. B
Sol.
A) Liver- The liver is an organ only found in vertebrates which detoxifies various metabolites, synthesizes proteins and produces biochemicals necessary for digestion and growth. In humans, it is located in the right upper quadrant of the abdomen.
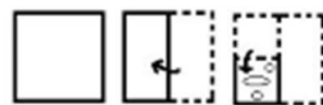B) Renin- Renin, enzyme secreted by the kidney (and also, possibly, by the placenta) that is part of a physiological system that regulates blood pressure. In the blood, renin acts on a protein known as angiotensinogen, resulting in the release of angiotensin I.
C) Pancreas- The pancreas is an organ of the digestive system and endocrine system of vertebrates. In humans, it is located in the abdomen behind the stomach and functions as a gland.
D) Kidney- Each kidney is about 4 or 5 inches long, roughly the size of a large fist. The kidneys' job is to filter your blood. They remove wastes, control the body's fluid balance, and keep the right levels of electrolytes. All of the blood in your body passes through them several times a day.
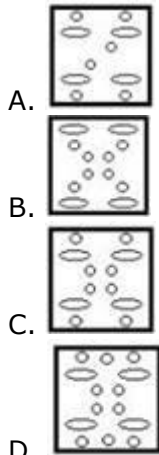Hence, option B is the correct answer.

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?

A.

B.

C.

D.

Ans. C

Sol.

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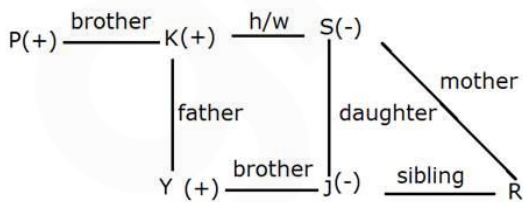

Hence, option C is the correct answer.

24. A + B means 'A is the mother of B';
A – B means 'A is the brother of B';
A × B means 'A is the father of B';
A ÷ B means 'A is the daughter of B';
If, P – K × Y – J ÷ S + R, then which of the following statements is NOT correct?
A. K is husband of S
B. J is daughter of P
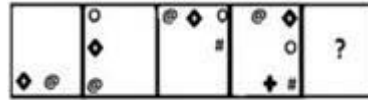C. P is paternal uncle of R
D. Y is son of S

Ans. B

Sol.

Venn-diagram of the expression P – K × Y – J ÷ S + R can be drawn as given below-

From the above figure,
A) K is husband of S.(True)
B) J is daughter of P.(False because J is the niece of P.)
C) P is paternal uncle of R.(True)
D) Y is son of S.(True)
Hence, option B is the correct answer.

25. Select the figure that cab replace the question mark (?) in the following series.

A.

B.

C.

D.

Ans. C

Sol.

After carefully observing the figures given in the question, it is very clear that the answer figure(c) will be the next figure.

Hence, the correct answer is option C.

26. If A + B = 45°, then the value of 2(1 + tanA) (1 + tanB) is:
A. 2
B. 0
C. 4
D. 1

Ans. C

Sol.

Here A + B = 45°,

$\Rightarrow$ tan(A+B) = tan45°

$$\Rightarrow \frac{tanA+tanB}{1-tanAtanB} = 1$$

= tanA + tanB = 1 – tanAtanB

$\Rightarrow$ tanA + tanB + tanAtanB = 1

Adding 1 to both sides

$\Rightarrow$ 1+ tanA + tanB +tanAtanB = 2

$\Rightarrow$ (1 + tanA)(1 + tanB) = 2

27. A train crosses a pole in 12 sec. and a bridge of length 170 m in 36 sec. Then the speed of the train is:
A. 30.75 km/h
B. 10.8 km/h
C. 25.5 km/h
D. 32.45 km/h
Ans. C
Sol.
Let the length of train be L m.
and speed of train be s km/hr.
Then distance = speed × time
L = s × 12
Length of bridge = 170 m
Time taken to cross bridge = 36 sec
Then, (L + 170) = s × 36
Substituting the value of s from above
⇒ (L + 170) = (L/12)×36
⇒ (L + 170) = 3L
L = 170/2 = 85 m
From the above equation we have:
s = 85/12 m/sec = (85/12)×(18/5) = 25.5 km/hr

28. The ratio of the number of boys to the number of girls in a school of 640 students, is 5 :3 . If 30 more girls are admitted in the school, then how many more boys should be admitted so that the ratio of boys to that of the girls, becomes 14 : 9?
A. 20
B. 25
C. 30
D. 15
Ans. A
Sol.
Total number of students in school = 640
Ratio of boys to girls = 5 : 3
Number of boys = (5/8)×640=400
Number of girls = (3/8)×640 = 240
Now when 30 more girls are added
Total number of girls = 240 + 30 = 270
Let the increased number of boys be x
Then new ratio = 14 : 9
⇒ (400+x)/270=14/9
⇒ 3600 + 9x = 3780
⇒ 9x = 180
⇒ x = 20

29. If A lies in the first quadrant and 6.tanA = 5, then the value of $\dfrac{8\sin A - 4\cos A}{\cos A + 2\sin A}$ is:
A. 1
B. -2
C. 4
D. 16
Ans. A
Sol.
Here Tan A = 5/6
⇒(8sinA-4cosA)/(cosA+2sinA)
Taking cosA common from both numerator & denominator:
=(8tanA-4)/(1+2tanA)
$$= \dfrac{8 \times \dfrac{5}{6} - 4}{1 + 2\left(\dfrac{5}{6}\right)}$$
= (20-12)/8 = 1

30. If the length of a rectangle is increased by 40%, and the breadth is decreased by 20%, then the area of the rectangle increases by x%. Then the value of x is:
A. 20
B. 8
C. 16
D. 12
Ans. D
Sol.
Let us suppose that the original length and breadth be 100 and 100.
Area of rectangle = 100 × 100 = 10000
So, when length is increased by 40%
New length = 100 + 40 = 140
And when breadth is decreased by 20%
New breadth = 100 – 20 = 80
New Area of rectangle = 140 × 80 = 11200
Percentage increase =[(11200-10000)/10000]×100
 = (1200/10000)×100=12%

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