

Literacy

Question 1

Fill in the blank with the appropriate words.

Democracy, as a way of life and not as a mere political arrangement, requires of it's a regard not only for their own their own but equally for the rights of others.

- A. Exponents , identical
- B. Votaries, related
- C. Protagonist , same
- D. Adherents , similar

Question 2

Choose the odd one out

- A. Abate
- B. Slake
- C. Agitate
- D. Relieve

Question 3

Hunger is to satiation as fatigue is to

- A. Sleep
- B. Activity
- C. Movement
- D. Stress

Question 4

Complete the simile. That guy is as nutty as a

- A. Fruitcake.
- B. Sheep
- C. Gazelle
- D. Tomato

Quantitative Reasoning

Question 5

Hilda swims from point A to point B on a river which is 30 metres apart. Hilda then swims back from point B to point A. Assuming A to B is upstream and B to A is downstream, and the difference in time taken is 20 minutes. Find the square of Hilda's speed, then divided by the speed of current, and then minus the speed of current. Write your answer in metre per minute.

A 0 B. 3 C. 5 D. 7 E. Impossible to be determined

Question 6

ABCD is a parallelogram with $A(1,k)$, $B(k,2)$, $C(-k,2k)$ and $D(-1,1)$. Find the sum of all possible values of $300k$.

A. - 400 B. - 300 C. 0 D. 300 E. 400

Question 7

Given that $(5 + 3\sqrt{2})^6 - (5 - 3\sqrt{2})^6 = p\sqrt{2}$. Find the sum of prime factors of p .

B. 120

C. 60

D. 80

E. 100

Question 8

A perfect number is a positive integer that is equal to the sum of its positive factors, excluding the number itself. For example, the factors of 6, except itself, are 1, 2 and 3. $1+2+3 = 6$, therefore 6 is a perfect number. If set $A = \{x: x \text{ is a perfect number}\}$ and set $B = \{x: x = 2^n - 1 \text{ (} 2^n - 1\text{), where } n \text{ is a positive integer greater than } 1\}$, find the sum of the first 3 smallest elements of $A \cap B$.

A. 530 B. 6 C. 28 D. 498 E. 8128

Question 9

Given that $A : B = 9 : 11$, $B : C = 6 : 12$, $C : D = 7 : 13$ and $A + B + C + D = 5800$
what is the value of B?

- B.** 770
- C.** 540
- D.** 800
- E.** Not enough information

Question 10

A truck and a car travelled uniformly along an expressway from city M to city N. The truck left at 10:15 and arrived at 14:15. The car left at 11:00 and arrived at 13:45. At what time did the car overtake the truck?

- A.** 12:39
- B.** 11. 55
- C.** 14: 01
- D.** 15. 15

Scientific Literacy

Question 11

The following is a response of the skin when the body encounters a slight change of temperature.

“The hair erector muscle relaxes, lowering the hair.”

Which of the following responses by the skin would also correspond to the slight change of temperature as above?

- A.** The arterioles under the skin get dilated.
- B.** The blood flow in the capillaries under the skin decreases.
- C.** The amount of heat loss through the skin increases.
- D.** Involuntary contractions of the muscle cause the whole body to shiver.

Question 12

Overexposure to ultraviolet radiation in the past century has become a concern to human health. As such, one of the recommendations is to wear hats and sunglasses on sunny days to protect the eyes. Which of the following statements is true about how ultraviolet radiation affects the body?

- A.** The human skin responds to ultraviolet radiation exposure by turning lighter over time.
- B.** Darker skins absorb more ultraviolet light so less ultraviolet radiation reaches the deeper tissues.
- C.** The presence of clouds blocking the sun will reduce the amount of exposure to ultraviolet radiation significantly.
- D.** It is good to wear sunscreen with high sun protection factor on sunny days to avoid skin cancer.

Question 13

A student wrote the following description about adrenaline and how it affects the human body. "In times of fear or stress, adrenaline is produced by the adrenal glands. Adrenaline targets the vital organs and increases the heart rate. Adrenaline boosts the delivery of oxygen to the brain and muscles. Glucose is converted into glycogen in the liver cells when there is an energy demand. Energy is released by respiration in the muscles." Which sentence in the above description is wrong?

- A.** Glucose is converted into glycogen in the liver cells when there is an energy demand.
- B.** Adrenaline targets the vital organs and increases the heart rate.
- C.** Energy is released by respiration in the muscles.
- D.** Adrenaline boosts the delivery of oxygen to the brain and muscles.

Question 14

The relative atomic mass of oxygen is 16 and the relative molecular mass of ammonium sulfate is 132.

What is the percent composition of oxygen in ammonium sulfate?

- A.** 12.1% **B.** 24.2% **C.** 36.4% **D.** 48.5%

Question 15

Cellulose is a polysaccharide and is made from many glucose monomers. The structural difference between cellulose and starch is how the glucose monomers are linked together. Cellulose is the main constituent of a plant cell wall. Which of the following statements is true of cellulose?

- B. Cellulose will not turn iodine blue-black.
- C. Human salivary amylase is able to break down cellulose.
- D. Human beings are able to digest cellulose in the alimentary canal.
- E. When cellulose is digested, the product is able to yield a violet with Biuret's solution.

Question 16

The gravitational field strength from any given body, g , can be determined by the following formula: $g = \frac{Gm}{r^2}$ where G is the gravitational constant, m is the mass of the body and r is the distance from the centre of the Earth to the centre of the object. Which of the following statements is true about the gravitational field strength?

- A. A larger mass of the body will result in a larger gravitational field strength.
- B. A smaller mass of the body will result in a larger gravitational field strength.
- C. Gravitational field strength decreases when both the masses are closer to each other.
- D. It is more difficult to escape the gravitational field strength of a body when the object is further away from the body.

Social Literacy

Question 17.

What name is given to the differences between high tide and low tide?

- A. Tidal wave
- B. Tidal range
- C. Tidal flow
- D. Tidal height

Question 18.

In which country was the sirte Declaration made?

- A. Ghana
- B. Ethiopia
- C. South Africa
- D. Libya

Question 19.

Who is the current chief of Defence staff of Ghana?

- A. Major General Nunoo Mensah
- B. Rear Admiral Seth Amoamah
- C. Major General Arnold Quainoo
- D. None of the above

Question 20.

Which country will be hosting the 2022 Winter Olympics?

- A. Japan
- B. London
- C. China
- D. Qatar

Go to next page for Mock 2

Literacy

Question 1

Fill in the blank with the appropriate words.

He is so that everyone is always ... to help him in his work.

- A. Helpful, reluctant
- B. Magnanimous, eager
- C. Adamant, enthusiastic
- D. Diffident, hopeful

Question 2

Choose the odd one out

- A. Professed
- B. Ostensible
- C. Outward
- D. Genuine

Question 3

Speed is to fast as temperature is to

- A. Ice
- B. Warm
- C. Thermometer
- D. degree fahrenheit

Question 4

Complete the simile.

Your explanation is as clear as

- A. Paper
- B. Mud
- C. Wall
- D. clouds

Quantitative Reasoning

Question 5

Troy currently drives a car with a constant fuel efficiency of 30 miles per gallon. On average, he drives 10 miles per day. He is considering upgrading to a car with a 50 mile per gallon fuel efficiency. A gallon of gas costs exactly \$4. How many dollars will Troy save on gas every 360 days by upgrading to the more fuel-efficient car?

- A. \$180 B. \$240 C. \$120 D. \$192

Question 6

At a summer camp, campers are either on the Red Team or the Blue Team. If there are 4 more campers on the Blue Team compared to the Red Team, and the product of the number of Red Teammates and the number of Blue Teammates is 39200, how many campers are at the camp?

- A. 396 B. 384 C. 400 D. 388 E. Other

Question 7

Given that $(5 + 3\sqrt{2})^6 - (5 - 3\sqrt{2})^6 = p\sqrt{2}$. Find the sum of prime factors of p.

- A. 120
B. 60
C. 80
D. 100

Question 8

Material A is ten times as dense as material B. If a container is filled with some combination of materials

A and B, and 70 percent of the space is filled with material A, what fraction of the mass in the container

is actually material A?

- A. 9/19
B. 10/11
C. 99/100
D. 70/73

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Question 10

The third term of a finite geometric series with 8 terms is 4, and the first term is 1 smaller than the

second term. If the sum of the terms in the series is s , compute s .

(A) 255 (B) 127 (C) 256 (D) 511

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Social Literacy

Question 17.

. Which of these is an example of physical weathering?

- A .Carbonation
- B .Exfoliation
- C. Hydrolysis
- D. Hydration

Question 18.

Banjul is the capital city of which country

- A. Guinea
- B. Guinea-Bissau
- C. Gambia
- D. Congo

Question 19.

Who is the first female to become a police officer in Ghana?

- A. Abena Dolphyne
- B. Joyce Aryee
- C. Bamford Addo
- D. Rosamond Asiamah Nkansah

Question 20.

The latest World Climate Change conference was held in which country

- A. Bahamas
- B. Canada
- C. Scotland
- D. Germany

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