I SIMULAZIONE IN INGLESE 2017

General Knowledge and Logical Reasoning

1. Which word does NOT belong with the others?

   A. two
   B. three
   C. six
   D. Eight
   E. ten

2. People speculate when they consider a situation and assume something to be true based on inconclusive evidence. Which situation below is the best example of Speculation ?

   A. Francine decides that it would be appropriate to wear jeans to her new office on Friday after reading about "Casual Fridays" in her employee handbook.
   B. Mary spends thirty minutes sitting in traffic and wishes that she took the train instead of driving.
   C. After consulting several guidebooks and her travel agent, Jennifer feels confident that the hotel she has chosen is first-rate.
   D. When Emily opens the door in tears, Theo guesses that she's had a death in her family.
   E. None of these answers is correct

3.
Fact 1: All chickens are birds.
Fact 2: Some chickens are hens.
Fact 3: Female birds lay eggs.
If the first three statements are facts, which of the following statements must also be a fact?
I: All birds lay eggs.
II: Some Hens are birds.
III: Some chickens are not hens.
   A.   I only
   B.   II only
   C.   II and III only
   D.   None of the statements is a known fact.
   E.   None of them above

4.   Danielle has been visiting friends in Ridge-wood for the past two weeks. She is leaving tomorrow morning and her flight is very early. Most of her friends live fairly close to the airport. Madison lives ten miles away. Frances lives five miles away, Samantha, seven miles. Alexis is farther away than Frances, but closer than Samantha. Approximately how far away from the airport is Alexis?
                A.   nine miles
                B.   seven miles
                C.   eight miles

D.   six miles

E   None of them above

5. Five cities all got more rain than usual this year. The five cities are: Last Stand, Mile City, New Town, Olliopolis, and Polberg. The cities are located in five different areas of the country: the mountains, the forest, the coast, the desert, and in a valley. The rainfall amounts were: 12 inches, 27 inches, 32 inches, 44 inches, and 65 inches.

* The city in the desert got the least rain; the city in the forest got the most rain.
* New Town is in the mountains.
* Last Stand got more rain than Olliopolis.
* Mile City got more rain than Polberg, but less rain than New Town.
* Olliopolis got 44 inches of rain.
* The city in the mountains got 32 inches of rain; the city on the coast got 27 inches of rain.

Which city got the most rain?

A.   Last Stand
B.   Mile City
C.   New Town
D.   Olliopolis
E.   Polberg

6. One New York publisher has estimated that 50,000 to 60,000 people in the United States want an anthology that includes the complete works of William Shakespeare. And what accounts for this renewed interest in Shakespeare? As scholars point out, his psychological insights into both male and female characters are amazing even today.

This paragraph best supports the statement that

A.   Shakespeare's characters are more interesting than fictional characters today.

B.   people even today are interested in Shakespeare's work because of the characters.

C.   academic scholars are putting together an anthology of Shakespeare's work.

D.   New Yorkers have a renewed interested in the work of Shakespeare.

E.   Shakespeare was a psychiatrist as well as a playwright.

7.   The Fourth Amendment to the Constitution protects citizens against unreasonable searches and seizures. No search of a person's home or personal effects may be conducted without a written search warrant issued on probable cause. This means that a neutral judge must approve the factual basis justifying a search before it can be conducted.

This paragraph best supports the statement that the police cannot search a person's home or private papers unless they have

A.   legal authorization

B.   direct evidence of a crime.
C.   read the person his or her constitutional rights.
D.   a reasonable belief that a crime has occurred.
E.   requested that a judge be presen4 Some crustaceans are insects.

8. The government has decided to pay compensation to the tune of Rs. 1 lakh to the family members of those who are killed in railway accidents.
Assumptions:
The government has enough funds to meet the expenses due to compensation.
There may be reduction in incidents of railway accidents in near future.

A.   Only assumption I is implicit
B.   Only assumption II is implicit
C.   Either I or II is implicit
D.   Neither I nor II is implicit
E.   Both I and II are implicit

9. The State Government has abolished the scheme of providing concessional air ticket to students.
Assumptions:
Students will not travel by air in future.
The students who resort to travel by air can bear the expenses of air ticket.

A.   Only assumption I is implicit
B.   Only assumption II is implicit
C.   Either I or II is implicit
D.   Neither I nor II is implicit
E.   Both I and II are implicit

10. The General Administration Department has issued a circular to all the employees informing them that henceforth the employees can avail their lunch break at any of the half-hour slots between 1.00 p.m. and 2.30 p.m.

Assumptions:
The employees may welcome the decision and avail lunch break at different time's slots.
There may not be any break in the work of the organization as the employees will have their lunch break at different time slots.

A.   Only assumption I is implicit
B.   Only assumption II is implicit
C.   Either I or II is implicit
D.   Neither I nor II is implicit
E.   Both I and II are implicit

11.One important article of the Lisbon treaty must be invoked before Britain can leave the European Union. What is the article's number?
A. 15
B. 40
C. 50
D. 18
E. 27

Biology

12. In a DNA sample, the percentage of adenine present was 34%. What is the percentage of guanine in the sample?
A 22%
B 27%
C 16%
D 44%
E 54%

13. What part of the cell is responsible for breaking down and digesting things?

    A. ribosomes
    B. lysosomes
    C. endoplasmic reticulum
    D. vacuole
    E. None of the above

14. A semi permeable membrane is stretched across a chamber filled with water. The membrane is only permeable to water. 60 mg of salt is added to the left side of the chamber. Which of the following will happen?

    A. water will move toward the right side
    B. salt will move toward the right side
    C. water will move toward the left side
    D. salt will move toward the left side
    E. None of the above

15. When disaccharides are changed to monosaccharides, the common chemical process involved is:
    A. Hydration
    B. Hydrolysis
    C. Digestion
    D. Activation

E. dehydration

16. What part of the cell serves as the intracellular highway?
A.   endoplasmic reticulum
B.   golgi apparatus
C.   cell membrane
D.   mitochondria
E.   None of the above

17. Saturated fats:
    A. Have many double bonds
    B. Have no double bonds
    C. Tend to be oily
    D. Are associated with heart disease
    E. electrostatic charges

18. Which of the following structures has a 9 + 2 arrangement?
    A. flagella
    B. ribosome
    C. mitochondria
    D. golgi apparatus
    E. None of the above

19. A cell that is missing endoplasmic reticulum would have difficulty doing what?

    A. digesting food
    B. storing energy
    C. packaging proteins
    D. moving cytoplasm
    E. All of the above

20. The primary structure of a protein involves:
    A. Disulfide linkages
    B. Peptide bonds
    C. Hydrogen bonds
    D. Hydrophobic forces
    E. None of the above

Chemistry

21. Oxygen has a lower electronegativity than _____
 A. Fluorine
 B. chlorine
 C. lithium
 D. Iodine

E. None of these answers is correct

22. Why does chlorine have an atomic mass of 35.5, which is not a whole number?
    A. Chlorine contains an extra electron which makes it weigh more than 35.
    B. Chlorine contains 17 protons and 18.5 neutrons.
    C. Chlorine normally exists in an excited state, and so it weighs more than 35.
    D. The chlorine was not pure when its atomic mass was measured.
    E. Chlorine, as found in nature, contains a mixture of the isotopes 35Cl and 37Cl, in such proportions as to give an average atomic mass of 35.5

23. Which of the following are isotopes?
    A. 40K and 39K
    B. 40K and 40Ca
    C. 40K and 41Ca
    D. 23Na and 39K
    E. 23Na and 23Na+

24. When an atom is neutral, this mean:
    A. There are equal numbers of electrons and positrons orbiting in the electron shells.
    B. The electrons present have zero charge.
    C. The nucleus consists only of neutrons.
    D. The number of electrons is equal to the number of protons.
    E. The atom in question has gained electrons from an outside source.

25. Which of the following is correct?
    A. An ion becomes negative when a proton is removed.
    B. An ion becomes positive when electrons are removed and negative when electrons are added.
    C. An ion becomes positive when an extra proton is added.
    D. An ion becomes positive when positrons are added and negative when electrons are added.
    E. An ion's charge is independent on the number of electrons present.

26. An isotope of an element:
    A. Contains the same number of protons, but the number of neutrons is changed.
    B. Contains the same number of neutrons, but the number of protons is changed.
    C. Contains the same number of protons and neutrons, but the number of electrons is changed.
    D. Contains the same number of protons, but electrons are added onto the nucleus.
    E. Contains the same number of protons and neutrons, and is simply charged by a radioactive element such as uranium.

Physics and Mathematics

27. If a car is going 100 m/s and slows down to 50 m/s in 20 s, what is the rate of acceleration?

A. -2.5 m/s^2
B. 25 m/s^2
C. 50 m/s
D. -5 m
E. 75m/s^2

28. A stone is dropped from a cliff. What velocity would it have after 5 seconds?

A. 14.8 m/s
B. 1.96 m/s
C. 245.5 m/s
D. 49.1 m/s
E. 55,7 m/s

29.
Simplify:

$$\frac{x^2-4x}{x^2-16}$$

A $\dfrac{x}{4}$

B $\dfrac{x}{x+4}$

C $\dfrac{x}{x-4}$

D $\dfrac{1}{4}$

E $\dfrac{x-4}{x-16}$

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Risp. B

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Given that $4^p \times 8^q = 2^n$, express n in terms of p and q.

A $n = p + q$

B $n = 2p + 3q$

C $n = 2p + 4q$

D $n = p + q + 5$

E $n = 6pq$

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Risp. B