II SIMULAZIONE IN INGLESE

General Knowledge and Logical Reasoning

In each question below is given a statement followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and on the basis of the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

1. Should the oil companies be allowed to fix the price of petroleum products depending on market conditions?

Arguments:

I. Yes. This is the only way to make the oil companies commercially viable.

II. No. This will put additional burden on the retail prices of essential commodities and will cause a lot of hardships to the masses.

    A.   Only argument I is strong

    B.   Only argument II is strong

    C.   Either I or II is strong

    D.   Neither I nor II is strong

    E.   Both I and II are strong

2. Statement: "It has become a necessity to computerize all the functions of our Institute to maintain the present position." - A statement of the Director of XYZ Institute.

Assumptions:

I. Unless computerized, the Institute will fall behind the race.

II. The functions of the Institute are too complex to be handled manually.

    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

3.   Statement: With a sense of sincerity, quality teachers can improve the society.

Assumptions:

I.   Quality teachers are sincere.

II. Sincerity in teaching pays.

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

4.   Statement: If the city bus which runs between Ram Nagar and Sant Colony is extended to Vasant Vihar, it will be convenient. - Appeal of residents of Ram Nagar to the city bus company.

Assumptions:

I.   The convenience of the city bus company is much more important than the needs of the consumers.

II. The city bus company is indifferent to the aspirations of the residents of Sant Colony.

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

5.   Statement: "Present day education is in shambles and the country is going to the dogs."

Assumptions:

    I.   A good education system is essential for the well-being of a nation.

    II. A good education alone is sufficient for the well-being of a nation.

        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

6. Statement: A large number of people in ward X of the city are diagnosed to be suffering from a fatal malaria type.

Courses of Action:

    I.   The city municipal authority should take immediate steps to carry out extensive fumigation in ward X.

    II. The people in the area should be advised to take steps to avoid mosquito bites.

        A.   Only I follows

        B.   Only II follows

        C.   Either I or II follows

        D.   Neither I nor II follows

        E.   Both I and II follow

7. Statement: The Institute has fixed for the investors a validity period of one year for transfer forms for some of its listed schemes.

Courses of Action:

    I.   The Institute should consult investors before fixing the duration of validity period.

    II. The investors should be duly informed about the validity period.

III. List of schemes covered under this validity period should be communicated.

     A.   Only I and II follow

     B.   Only III follows

     C.   Only II and III follow

     D.   Only I and III follow

     E.   All follow

8. Statement: The situation of this area still continues to be tense and out of control. People are requested to be in their homes only.

Assumptions:

I. There had been some serious incidents.

II. People will not go to the office.

Normalcy will be restored shortly.

     A.   Only I is implicit

     B.   Only I and II are implicit

     C.   None is implicit

     D.   Only I and III are implicit

     E.   All are implicit

9.   Statement: A State Government suspended two additional district judges.

Assumptions:

I. They were negligent in discharging duties.

II. There was a charge of misconduct against them.

III. The government officials were biased against them.

A.   None is implicit

B.   Either I or II is implicit

C.   Any one of the three is implicit

D.   Only I and III are implicit

E.   Either I or III is implicit

10. This logic problem presents you with three true statements: Fact 1, Fact 2, and Fact 3. Then, you are given three more statements (labeled I, II, and III), and you must determine which of these, if any, is also a fact. One or two of the statements could be true; all of the statements could be true; or none of the statements could be true. Choose your answer based solely on the information given in the first three facts.

Fact 1: Most stuffed toys are stuffed with beans.

Fact 2: There are stuffed bears and stuffed tigers.

Fact 3: Some chairs are stuffed with beans.

If the first three statements are facts, which of the following statements must also be a fact?

I: Only children's chairs are stuffed with beans.

II: All stuffed tigers are stuffed with beans.

III: Stuffed monkeys are not stuffed with beans.

A.   I only

B.   II only

C.   II and III only

D.   None of the statements is a known fact.

E.   III only

11. Which party does Donald Trump belong to?

A.   Republican

B. Democratic

C. National

D. People's

E. None of the above

Biology

12. The cell cycle:
A. is the same length of time for all cells.
B. is when a cell dies.
C. is different lengths of time for different types of cells
D. is when a cell is born
E. None of the above

13. A function of protein is to:
A. provide essential fatty acids.
B. promote growth
C. participate in nervous system functioning.
D. medium for temperature regulation
E. None of the above

14. A person with type A blood (unknown genotype) marries a person with type O blood. What blood types are possible among their children.

A. A or O .
B. B only
C. A only
D. O only
E. AB only

15. Cramps during exercise are caused by:
A. alcohol fermentation
B. glycolysis inhibition
C. lactic acid fermentation
D. chemiosmosis
E. None of the above

16. The final electron acceptor during oxidative phosphorylation is:
A. oxygen
B. water
C. carbon dioxide

D. ATP
E. ADP

17. The photosynthetic process used by some plants to survive in a hot dry climate, like the desert?
    A. C4 Photosynthesis
    B. C3 Photosynthesis
    C. Noncyclic photophosphorylation
    D. Carbon fixation
    E. CAM Photosynthesis

18. A farmer discovers an oddity among his sheep where some of the sheep have abnormally large eyes and bowed legs. Crosses of these sheep show that 2/3 of the offspring have a normal phenotype and 1/3 have the abnormal phenotype. What is the best explanation for the type of inheritance that occurs here?

    A. the allele is lethal in its dominant form

    B. the allele is completely recessive

    C. the allele is codominant

    D. the allele is dominant

    E. None of the above

19. Consider the following traits: Widow's peak (dominant) and Tongue twisting (recessive). If a person is Pptt is married to a person who is ppTt, what proportion of their offspring will have a widow's peak and can twist their tongue?

    A. 1/2

    B. 1/16

    C. 1/4

    D. 3/16

    E. 1

20. Dwarfism is a dominant allele that is also lethal in a homozygous state. If two dwarfs are married, what are the odds that their child will not be viable (able to survive)

    A. 1/2

    B. 1/4

C. 3/4

D. 1/8

E. 0

Chemistry

21. Across the Periodic Table (from Group 1 to Group 7), what happens to the ionization energy of the elements?
   A. They increase steadily.
   B. They increase until Group 4 then decrease.
   C. They decrease until Group 4 then increase.
   D. They decrease steadily.
   E. None of the above

22. What is the correct formula?
   A. $Ca_3(PO_4)_2$
   B. $Ca (PO_3)_2$
   C. $Ca_3(PO_3)_2$
   D. $CaPO_4$
   E. None of these answers is correct

23. For the reaction $2 C_4H_{10}$ (g) + $13 O_2$ (g) = $8 CO_2$ (g) + $10 H_2O$ (l)
300 g of C_4H_{10} is combusted in 1000 g of O_2.
   A. C_4H_{10} is the limiting reagent
   B. 432 g H_2O is produced
   C. 5 g of CO_2 is produced
   D. 300 g H2O is produced
   E. None of these answers is correct

24. How many grams of glucose ($C_6H_{12}O_6$) are required to prepare 1.75 liters of 0.233 M glucose solution?
   A. 73 g
   B. 76 g
   C. 66 g
   D. 90 g
   E.100 g

25. How many mL of 5.00 M Li2CrO4 are needed to prepare 3.00 liters of 0.250 M Li2CrO4?

   A. 0,15 cl
   B. 200 ml

C. 150 dm^3
D. 150 cm^3
E. 200 ml

26. Al(OH)$_3$ + 3HCl --> 3H$_2$O + AlCl$_3$ If you actually recovered 22.0 grams of aluminum chloride, what is the percent yield of the reaction?
A: 100%
B: 92%
C: 69%
D. 75%
E. 80%

Physics and Mathematics

27. An ideal gas sample is confined to 3.0 L and kept at 27 °C. If the temperature is raised to 77 °C and the initial pressure was 1500 mmHg, what is the final pressure?
   A. 1750 mmHg
   B. 200 atm
   C. 1 atm
   D. 1200 mmHg
   E. 1000 mm Hg

28. A sports car of mass 1000 kg can accelerate from rest to 27 m/s in 7.0 s. What is the average forward force on the car?
   A. 2.6 * 10^2 N
   B. 3.9 * 10^3 N
   C. 2.7 * 10^4 N
   D. 1.9 * 10^5
   E. None of the above

29. Paul, Mark and Sammy take part in a race.

The probability that Paul wins the race is 9/35

The probability that Sammy wins the race is 26%.

The probability that Paul wins the race is 8/35

Who is more likely to win the race?

A. Sammy
B. Paul

C. Mark
D. Mark and Paul
E. Paul and Sammy

30. The solution of the following inequality is

$$x^2 \leq \frac{4x - 1}{3}$$

   a) $\forall x \epsilon R$

   b) $\frac{1}{3} \leq x \leq 1$

   c) $x \leq \frac{1}{3}, x \geq 1$

   d) $\nexists x \epsilon R$

   e) None of the above