II SIMULAZIONE IN INGLESE 2018

General Knowledge and Logical Reasoning

1. Statement: Should education be given by the government free of charge ?
Arg. I: Yes, it will help in universalization of education in the country.
Arg. II: No, there will be budgetary deficit creating some new problems.
A. I is strong
B. only argument II is strong
C. both the arguments are strong
D. neither I nor II is strong
E. None of the above

2. Statement: Should students study in early hours of morning ?
Arg. I: Yes, mind is fresh and alert at that time.
Arg. II: No, early risers feel sleepy throughout the day.
A. only I is strong
B. only argument II is strong
C. both the arguments are strong
D. neither I nor II is strong
E. None of the above

3. Statement: Should the government stop aiding to minority institutions of education?
Arg. I: Yes, their poor quality as well as quantity of education is wasting the fund.
Arg. II: No, ruling party will lose its vote bank in the comming elections.
A. only I is strong
B. only argument II is strong
C. both the arguments are strong
D. neither I nor II is strong
E. None of the above

4. Statement: Should workers be alowed to participate in the management of factories in India?
Arg. I: Yes, it is the present management theory.
Arg. II: No, many workers are illiterate and their contribution will not be of value.
A. only I is strong
B. only argument II is strong
C. both the arguments are strong
D. neither I nor II is strong
E. None of the above

5. Statement: Should the political parties be banned?

Arg. I: Yes, it is necessary to teach a lesson to the politicians.

Arg. II: No, it will lead to an end of democracy.

A. only I is strong
B. only argument II is strong
C. both the arguments are strong
D. neither I nor II is strong
E. None of the above

6. Statement: Since the feeling of superiority is built in wherever there is social development, there is a little that can be done to arrest it except at the cost of social development.

Con. I: To maintain social development complex should be allowed to continue.

Con. II: Social development and complex run side by side.

A. only conclusion I follows
B. only conclusion II follows.
C. both I and II follow
D. neither I nor II follows
E. None of the above

7. 4,6,9,13

A. 15
B. 12
C. 18
D. 17
E. 20

8. 3 : 10 = 8 : ?

A. 10
B. 13
C. 17
D. 14
E. 6

9. Ravi is too intelligent to fail in the examination.

Assumption I: Very intelligent boys do not fail in the examinations.

Assumption II: Those who are not intelligent at all may fail in the examinations.

A. assumption I is implicit
B. assumption II is implicit,
C. both I and II are implicit

D. neither of them is implicit.
E. None of the above

10. (a) My son is not old enough to vote.
(b) My son has handsome personality.
Inference : My son is a boy under 18 years of age.
A. the inference is definitely true
B. the inference is definitely false
C. the inference is probably false or true
D. inference cannot be drawn
E. None of the above

11. The position of the sun is annually twice over head at Singapore because of the

A. rotation of the earth
B. revolution of the earth
C. elliptical path of the earth's orbit
D. parallelism of inclined axis of the earth
E. None of the above

Biology

12. Which enzymes remove supercoiling in replicating DNA ahead of the replication fork?

A. helicases
B. DNA polymerases
C. primases
D. topoisomerases
E. ligase

13. In which of the following would you find telomeres?

A. Human mitochondrial DNA
B. Human chromosomes
C. Bacterial chromosomes
D. The influenza virus genome
E. None of the above

14. Which of the following statements about DNA structure is correct?

A. Stacked base pairs of DNA interact by van der Waals interactions.
B. The A form of DNA is the form usually found in cells.
C. The diameter of the DNA double helix (B form) is 10 nm.
D. The DNA double helix is left handed.
E. None of the above

15. Approximately what proportion of the human genome is made up of repetitive DNA sequences?

A. 1%
B. 15%
C. 50%
D. 90%
E. 3%

16. Which of the following statements is NOT correct? Please select all that apply.

A. The enzyme that retroviruses and retrotransposons use to synthesise DNA is known as reverse transcriptase.
B. Transposons occur only in eukaryotes.
C. Transposons are responsible for most of the repetitive DNA in human cells.
D. Transposons have no known direct function but they may have benefits in evolution.
E. None of the above

17. In bacterial promoters, which of the following describes the 'Pribnow box'?

A. The 5' untranslated region
B. The -10 box
C. The -35 box
D. The termination sequence
E. None of the above

18. Which of the following statements about the TCA cycle is correct?

A. Oxygen is used to oxidise the acetyl group carbons of acetyl-CoA in the TCA cycle.
B. Three molecules of NADH and one molecule of FADH2 are produced in one turn of the TCA cycle
C. Oxygen is not used in the TCA cycle, so the cycle can occur in anaerobic conditions
D. The TCA cycle produces the water that is formed during the complete oxidation of glucose.
E. None of the above

19. Which of the following statements about the electron transport chain is correct?

A. The electron transport chain is made up of a chain of electron carriers with decreasing electron affinity.
B. The electron transport chain is made up of a chain of electron carriers with increasing redox potential.
C. The electron transport chain is made up of a chain of electron carriers with decreasing oxidising power.
D. The electrons transferred from carrier to carrier in the electron transport chain gain energy.
E. None of the above

20. An extra finger in humans is rare but is due to a dominant gene. When one parent is normal and the other parent has an extra finger but is heterozygous for the trait, what is the probability that the first child will be normal?

A. 0%.
B. 25%.
C. 50%.
D. 75%.
E. 33%

Chemistry

21. Which pair of elements is most likely to form an ionic compound with each other?
A. barium, Chlorine
B. calcium, sodium
C. oxygen, fluorine
D. sulfur, carbon
E. nitrogen, hydrogen

22. What is the formula of the compound formed between strontium ions and nitrogen ions?
A. SrN
B. Sr_3N_2
C. $S_{r2}N_3$
D. SrN_2
E. SrN_3

23. The correct name for $Mg(ClO_3)_2$ is _____.
A. magnesium chlorate
B. manganese chlorate
C. magnesium chloroxide
D. magnesium perchlorate
E. manganese perchlorate

24. Why do atoms share electrons in covalent bonds?
A. to become ions and attract each other
B. to attain a noble-gas electron configuration
C. to become more polar
D. to increase their atomic numbers
E. None of the above

25. $3\ Ag(s) + 4\ HNO_3 \rightarrow 3\ AgNO_3 + NO(g) + 2\ H_2O$ The reaction of silver metal and dilute nitric acid proceeds according to the equation above. If 0.10 mole of powdered silver is added to 10 milliliters of 6.0–molar nitric acid, the number of moles of NO gas that can be formed is
A. 0.015 mole
B. 0.020 mole

C. 0.030 mole
D. 0.045 mole
E. 0.090 mole

26. A 27.0–gram sample of an unknown hydrocarbon was burned in excess oxygen to form 88.0 grams of carbon dioxide and 27.0 grams of water. What is a possible molecular formula of the hydrocarbon?

A. CH_4
B. C_2H_2
C. C_4H_3
D. C_4H_6
E. C_4H_{10}

Physics and Mathematics

27. A truck drives slams on the brakes of a moving truck with a constant velocity v, as a result of his action the truck stops after traveling a distance d. If the driver had been traveling with twice the velocity, what would be the stopping distance compared to the distance in the first trial?

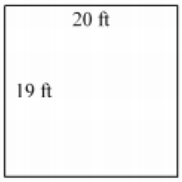
A. Two times greater
B. Four times greater
C. The same
D. Half as much
E. One-quarter as much

28. What happens to the total energy of a moving object if all the applied forces are conserved?

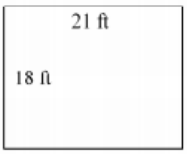
A. It increases
B. It decreases
C. It remains constant
D. The velocity is required to answer this question
E. The altitude is required to answer this question

29. Jennifer has 78 feet of fencing to make a rectangular vegetable garden. Which dimensions will give Jennifer the garden with greatest area? The diagrams are not to scale.

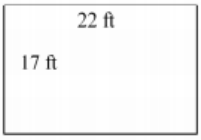
a.



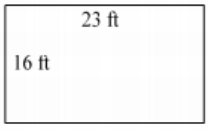
c.



b.



d.



A. B. C. D. E.

30. If the perimeter of a square is 72 inches, what is its area?

A. 72 $in.^2$

B. 324 $in.^2$

C. 18 $in.^2$

D. 5,184 $in.^2$

E. 6 $in.^2$