

### III SIMULAZIONE IN INGLESE 2018

#### General Knowledge and Logical Reasoning

1. Look at this series: 2, 4, 6, 8, 10, . . . What number should come next?

- A. 11
- B. 12**
- C. 13
- D. 14
- E. None of the above

2. Look at this series: 58, 52, 46, 40, 34, . . . What number should come next?

- A. 26
- B. 28**
- C. 30
- D. 32
- E. None of the above

3. Look at this series: J14, L16, \_\_, P20, R22, . . .

What number should fill the blank?

- A. S24
- B. N18**
- C. M18
- D. T24

E. None of the above

4. Look at this series: F2, \_\_, D8, C16, B32, . . .

What number should fill the blank?

A. A16

B. G4

C. E4

D. E3

E. None of the above

5. Which word does NOT belong with the others?

A. leopard

B. cougar

C. elephant

D. lion

E. None of the above

6. Which word does NOT belong with the others?

A. couch

B. rug

C. table

D. chair

E. None of the above

7. Optimist is to cheerful as pessimist is to

- A. gloomy.
- B. mean.
- C. petty.
- D. helpful.
- E. None of the above

8. Sponge is to porous as rubber is to

- A. massive.
- B. solid.
- C. elastic.
- D. inflexible.
- E. None of the above

9. Candid is to indirect as honest is to

- A. frank.
- B. wicked.
- C. truthful.
- D. untruthful.
- E. None of the above

10. Here are some words translated from an artificial language.

hapllesh means cloudburst

srenchoch means pinball

resbosrench means ninepin

Which word could mean “cloud nine”?

- A. leshsrench
- B. ochhapl
- C. haploch
- D. **hapresbo**
- E. None of the above

11. How many republics made up the former Soviet Union?

- A. 12
- B. 10
- C. **15**
- D. 20
- E. 18

### Biology

12. All of the following are types of anemia except:

- A. Hemorrhagic
- B. Hemolytic
- C. Aplastic
- D. **Reticulo**
- E. Iron-deficiency

13. This type of lymphocyte functions in the immune response by acting directly against virus-infected cells and tumor cells.

- A. Neutrophils
- B. **T-cells**
- C. Monocytes
- D. B-cells
- E. Lymphoblasts

14. Semicircular canals in the ear are responsible for

- A. **balance**
- B. equalising air pressure
- C. hearing
- D. transmitting vibrations
- E. None of the above

15. Which of the following is not an excretory organ?

- A. kidney
- B. lungs
- C. **pancreas**
- D. skin
- E. None of the above

16. The position of the heart in the human body is

- A. **between the two lungs**
- B. in the middle of the abdomen
- C. under the stomach
- D. None of the above
- E. below the diaphragm

17. Which of these are human excretory products?

- A. urea and oxygen
- B. amino acids and water
- C. carbon dioxide and oxygen
- D. **water and urea**
- E. None of the above

18. The name of the blood vessel that delivers blood to the kidneys is the

- A. hepatic vein
- B. hepatic artery
- C. **renal vein**
- D. renal artery
- E. None of the above

19. The membrane on the surface of a lung is called the

- A. **Visceral pleura**
- B. Parietal pleura

- C. Visceral pericardium
- D. Parietal pericardium
- E. None of the above

20. Which of the following organs is located in the abdominopelvic cavity?

- A. Heart
- B. Trachea
- C. Thymus gland
- D. **Kidney**
- E. None of the above

### Chemistry

21. What is the pH of a 0.00001 M KOH solution?

- A. **9**
- B. 3
- C. 3
- D. 10
- E. 12

22. The addition of acetic acid and \_\_\_\_\_ to water produces a buffer solution.

- A. HCl
- B. NaNO<sub>3</sub>
- C. CH<sub>3</sub>COOCH<sub>3</sub>
- D. CH<sub>3</sub>COONH<sub>4</sub>
- E. **CH<sub>3</sub>COONa**

23. In most of organic compounds, group found is

- A. **benzene ring**
- B. aldehydes
- C. ketone
- D. carboxylic
- E. None of the above

24. Comparing, Phenol reacts readily than benzene, so it is a

- A. nucleophiles
- B. **electrophile**
- C. protophile
- D. both A and B
- E. None of the above

25. Reaction of Acyl chlorides with alcohols and phenols will give

- A. **esters**
- B. ketones
- C. aldehydes
- D. haloalkanes
- E. carboxylic acids

26. Blue cheese have smell because of ketone

- A. heptan-2-one
- B. heptan-3-one
- C. heptan-2-ol
- D. hexa-2-one
- E. hexanone

### Physics and Mathematics

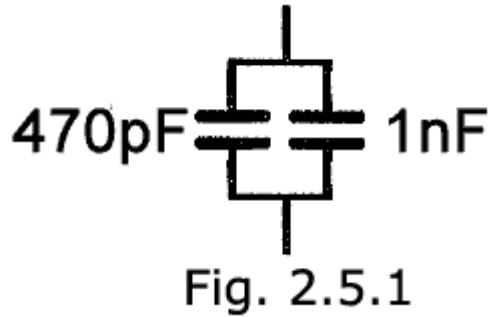
27. A hotel has 2 rooms by the seashore and 4 rooms by the golf course vacant. If you check in, what are the chances you'll get a room by the seashore?

- A.  $\frac{1}{3}$
- B. 3
- C. 2
- D.  $\frac{1}{2}$
- E.  $\frac{1}{4}$

28. On Monday and Wednesday night, Mrs. Miller went to bed listening to her favorite music CD. The CD contains music from 2 different composers: 4 tracks are Scarlatti and 4 tracks are Debussy. Her stereo is programmed to play the tracks in a random order. How likely is it that on both nights the last track played was Scarlatti?

- A.  $\frac{1}{4}$
- B.  $\frac{1}{2}$
- C.  $\frac{3}{2}$
- D.  $\frac{5}{2}$
- E. 1

29. What is the approximate total capacitance of the parallel circuit?



- A. 320pF
- B. 147pF
- C. 3.2nF
- D. 1.47nF

30. What is the resistance of 100m of copper wire, having a diameter of 1.024mm?

- A. 2.06Ω
- B. 5.15Ω
- C. .515Ω
- D. 3.7Ω