

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX

ANNUAL EXAMINATIONS (THEORY) 2023

General Science Paper I

Time: 1 hour 5 minutes Marks: 35

INSTRUCTIONS

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 35 only.
4. In each question there are four choices A, B, C, D. Choose ONE. On the answer grid black out the circle for your choice with a pencil as shown below.

Correct Way	Incorrect Ways
1 (A) (B) ● (D)	1 (A) (B) (C) (D)
	2 (A) (B) (C) (D)
	3 (A) (B) (C) (D)
	4 (A) (B) (C) (D)

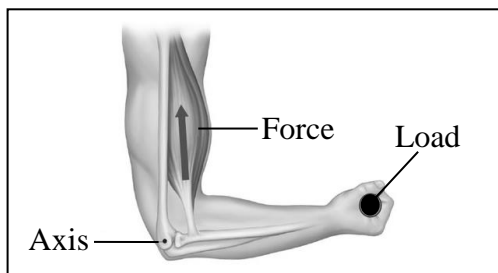
Candidate's Signature

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the circles.
7. You may use a simple calculator if you wish.

1. A scientist is curious to develop a variant form of a plant species that can grow in any landscape. In this regard, he wants to involve a specialist who can help him to understand different landscapes of the Earth.

The MAJOR field to which this specialist would belong is

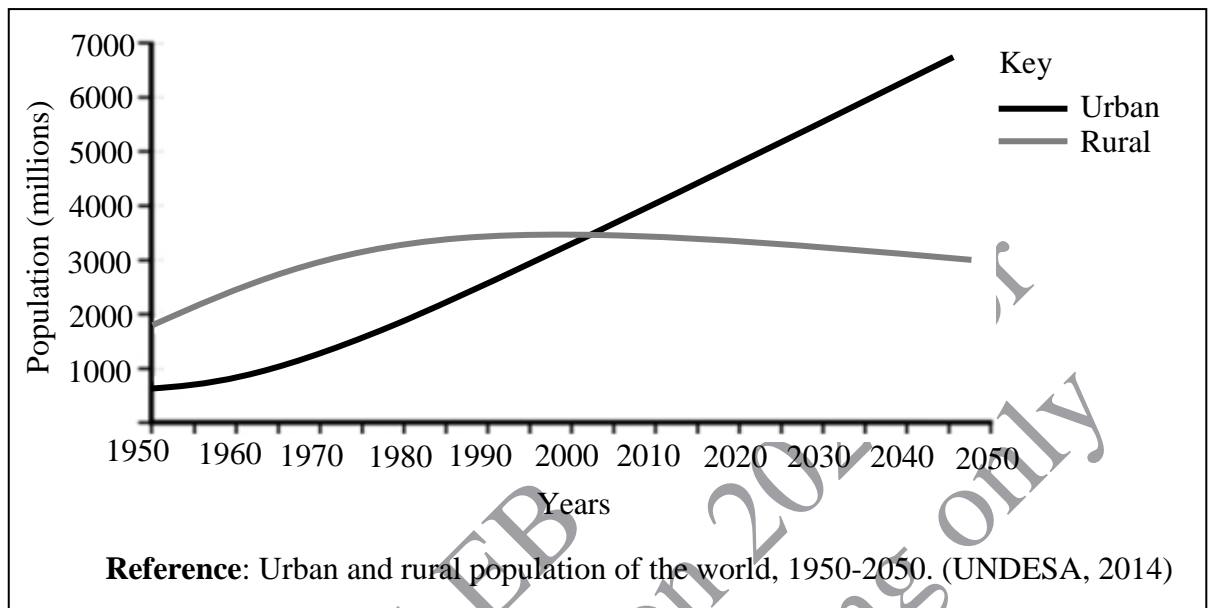
- A. mathematics.
 - B. geography.
 - C. chemistry.
 - D. physics.
2. The given diagram represents working of human arm based on the principle of a simple machine.



This example shows the relationship between

- A. biology and physics.
 - B. biology and geology.
 - C. physics and chemistry.
 - D. chemistry and geology.
3. The scientist who developed the FIRST effective system of radio communication is
 - A. Galileo.
 - B. Edison.
 - C. Marconi.
 - D. Lavoisier.
 4. The population and growth rate of a country increases due to
 - A. emigration.
 - B. immigration.
 - C. lower birth rates.
 - D. higher death rates.
 5. With reference to human population, birth rate is defined as the
 - A. annual number of births per 1,00 in a particular area.
 - B. weekly number of births per 1,00 of total population.
 - C. annual number of births per 1,000 of total population.
 - D. monthly number of births per 1,000 of total population.

6. The given graph shows the changes in the rural and urban populations of the world from 1950 to the year 2050.



It can be inferred from the given graph that in the coming years (2030 onwards),

- A. the villages will gradually flourish.
 - B. industries will establish in the villages.
 - C. there will be speedy expansion of cities.
 - D. the literacy rate of villages will become low.
7. An example of anabolism in living things is
- A. excretion.
 - B. digestion.
 - C. respiration.
 - D. photosynthesis.
8. The role of an enzyme in a chemical reaction is to
- A. increase the activation energy.
 - B. keep the temperature constant.
 - C. speed up the rate of the reaction.
 - D. decrease the pH value of the reaction.
9. The conversion of milk into yogurt involves the process of
- A. combustion.
 - B. dehydration.
 - C. fermentation.
 - D. decomposition.

10. Given are the characteristic features of a molecule.

- I. It is a photosynthetic product.
- II. It is essential for sustaining life.

Based on the given characteristic features, the molecule is identified as

- A. water.
- B. oxygen.
- C. hydrogen.
- D. carbon dioxide.

11. The hardest allotropic form of carbon present in nature is

- A. graphite.
- B. charcoal.
- C. diamond.
- D. buckyball.

12. A disease that can be prevented in a growing child, if an adequate amount of calcium is included in his/ her diet is

- A. rickets.
- B. beri beri.
- C. kwashiorkor.
- D. night blindness.

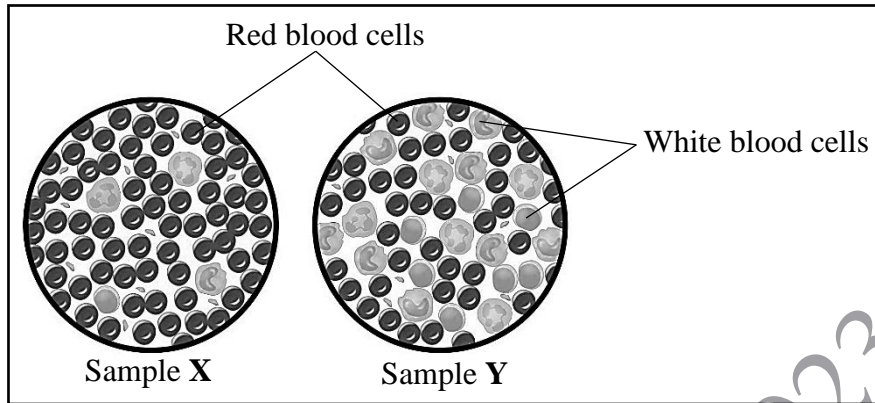
13. In addition to fuel, the two components required for combustion of a material are

- A. oxygen and heat.
- B. heat and nitrogen.
- C. oxygen and nitrogen.
- D. heat and carbon dioxide.

14. In living things, phosphorus is directly involved in the process of

- A. photosynthesis.
- B. DNA synthesis.
- C. digestion of proteins.
- D. breakdown of glucose.

15. The given diagram shows the microscopic view of two different blood samples. Sample **X** shows the blood cells of a healthy person and sample **Y** shows the blood cells of a diseased person.



With reference to the difference in number of red blood cells and white blood cells, the blood sample **Y** shows that this person is suffering from

- A. leukaemia.
 - B. thalassemia.
 - C. haemophilia.
 - D. hyper-clotting.
16. The option that **CORRECTLY** matches the method of controlling malaria with its purpose is

	Method	Purpose
A	covering windows with netting	kills mosquito larvae
B	spraying kerosene oil on stagnant water bodies	prevent the growth of mosquito larvae
C	covering the body with white blanket	prevent the growth of mosquito larvae
D	using insect repellent on skin	kills malarial parasites

17. To prevent ascariasis in humans, one should
- A. take prescribed antibiotics.
 - B. use boil water for drinking.
 - C. keep the skin clean and dry.
 - D. spray insecticides regularly.
18. A patient with blood group AB^- requires blood transfusion.

The blood group(s), other than AB^- , that can be donated to this patient is/ are

- A. O^- only.
- B. B^+ only.
- C. AB^+ or O^+ .
- D. A^- , B^- or O^- .

PLEASE TURN OVER THE PAGE

19. Which of the following diseases CANNOT be treated by antibiotics?

- A. Cholera
- B. Typhoid
- C. Influenza
- D. Tuberculosis

20. A doctor observes the following symptoms in a patient.

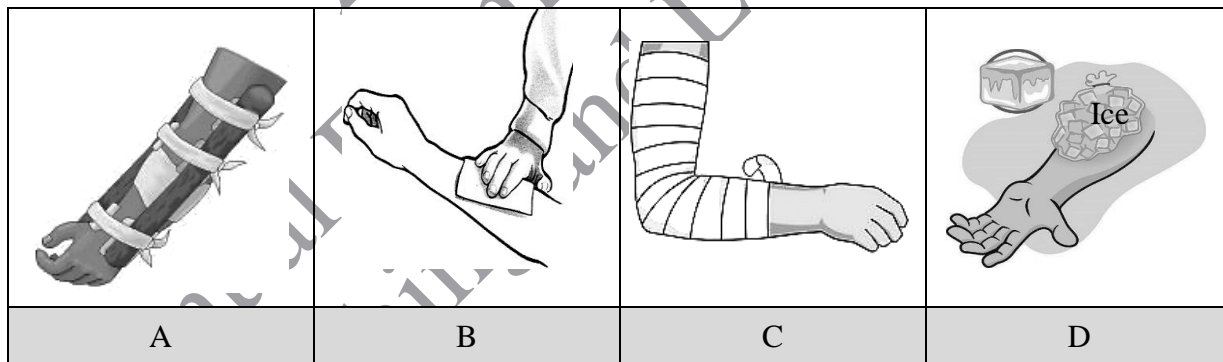
- Jaundice
- Nausea and vomiting
- Digestive disorders

Based on the observed symptoms, the doctor recommends this patient a blood test to make the diagnosis of

- A. tetanus.
- B. measles.
- C. hepatitis.
- D. tuberculosis.

21. Fawad's younger sister has injured her arm in an accident at home. She cannot move her arm probably due to a fractured bone.

To immobilise the injured arm, the first aid that Fawad should give to her sister is



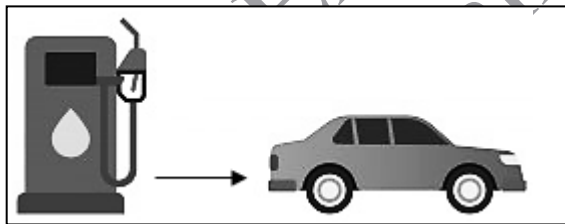
22. The food source that contains carbon, sulphur and nitrogen as major constituent elements is

- A. oil.
- B. rice.
- C. meat.
- D. butter.

23. A battery converts chemical energy into

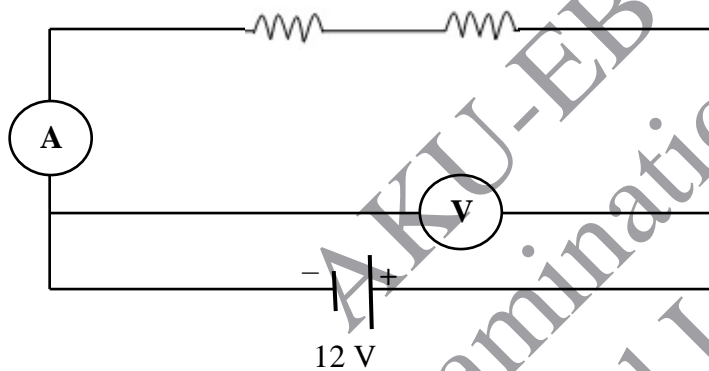
- A. kinetic energy.
- B. potential energy.
- C. electrical energy.
- D. mechanical energy.

24. Energy can be conserved by
- A. constructing more buildings.
 - B. increasing the habit of walking.
 - C. building more coal power stations.
 - D. connecting the villages with national grid.
25. Which of the following statements is FALSE about fossil fuels?
- A. It causes air pollution.
 - B. Its reserves are sustainable.
 - C. It is formed as a result of geological processes.
 - D. It requires well developed technology for extraction.
26. All of the following energy sources produce carbon dioxide EXCEPT
- A. oil.
 - B. tidal.
 - C. biomass.
 - D. natural gas.
27. Which of the following statements is CORRECT for wind as an energy source?
- A. It is a non-renewable source of energy.
 - B. The installation cost of wind turbines is low.
 - C. Its efficiency depends on weather conditions.
 - D. Wind turbines can be easily installed in any area.
28. The energy transformation shown in the given figure is



- A. heat energy \rightarrow kinetic energy.
- B. chemical energy \rightarrow light energy.
- C. kinetic energy \rightarrow chemical energy.
- D. chemical energy \rightarrow mechanical energy.

29. For the safe use of electrical appliances, which of the following wires should be connected to the power switch of appliance?
- A. Live wire
 - B. Earth wire
 - C. Brown wire
 - D. Neutral wire
30. If direct current is passed through a transformer, then the transformer will
- A. not respond to it.
 - B. step up its voltage.
 - C. decrease the amount of current.
 - D. convert direct current into alternating current.
31. Consider the given circuit diagram.



- In the given circuit, if one more resistor is added in series, then the reading on ammetre will
- A. increase.
 - B. decrease
 - C. become zero.
 - D. remain the same.
32. Voltmetre is a device which can measure
- A. current.
 - B. resistance.
 - C. conductance.
 - D. potential difference.
33. Dry cells and batteries are the sources of
- A. direct current.
 - B. dynamic current.
 - C. alternating current.
 - D. conventional current.

34. In an electric circuit, when a live and a neutral wire come in contact with each other, a very large amount of current flows through the circuit.

This flow of current causes

- A. an electric shock.
 - B. the melting of wires.
 - C. the cooling of circuit.
 - D. the bursting of electrical appliance.
35. As compared to an electric wire of 2 metres, the resistance of a 200 metres electric wire would be
- A. low.
 - B. zero.
 - C. high.
 - D. the same.

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