

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX

ANNUAL EXAMINATIONS 2022

General Science

Time: 1 hour 40 minutes Marks: 50

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 50 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. The marks obtained on the 50 MCQs will be equated to the total marks of 75 for the theory examination results.
8. You may use a simple calculator if you wish.

1. The nutrient that should be increased in the diet of a patient diagnosed with goiter is
 - A. iron.
 - B. iodine.
 - C. sodium.
 - D. calcium.

2. Alcohol is manufactured by the process of
 - A. combustion.
 - B. evaporation.
 - C. fermentation.
 - D. decomposition.

3. Table salt is composed of
 - A. sodium chloride.
 - B. sodium carbonate.
 - C. sodium hydroxide.
 - D. sodium bicarbonate.

4. The mineral which is important for plants to capture sunlight for photosynthesis is
 - A. iron.
 - B. calcium.
 - C. magnesium.
 - D. phosphorus.

5. Copper is used to make electrical wires because it is
 - I. a good conductor of electricity
 - II. a good insulator
 - III. malleable
 - A. I only.
 - B. II only.
 - C. I and III.
 - D. II and III.

6. In addition to potassium, the PRIMARY nutrients used in commercial fertilisers are
 - A. nitrogen and calcium.
 - B. iron and phosphorous.
 - C. calcium and phosphorous.
 - D. nitrogen and phosphorous.

7. The life process that exemplifies a catabolic reaction is
 - A. respiration.
 - B. photosynthesis.
 - C. protein synthesis.
 - D. duplication of DNA.

8. Abdullah often feels fatigue and suffers from muscle weakness due to the deficiency of potassium in his blood.

The foods that must be included in his regular diet are

- A. beef and eggs.
 - B. milk and cheese.
 - C. butter and chicken.
 - D. apples and bananas.
9. Which of the following is NOT an example of a chemical change in daily life?
- A. Baking a cake
 - B. Souring of milk
 - C. Cutting of a log
 - D. Burning of paper
10. An allotropic form of carbon that exhibits the poorest electrical conductivity is
- A. graphite.
 - B. charcoal.
 - C. diamond.
 - D. Buckyball.
11. In contrast to copper, aluminium wires are used in high-voltage power lines to transmit power over long distances because it
- A. has better ductility.
 - B. is lighter in weight.
 - C. is a good conductor of heat.
 - D. has lower electrical resistance.
12. Natural gas is used domestically for cooking food. It MAINLY comprises of
- A. oxygen.
 - B. methane.
 - C. hydrogen.
 - D. carbon dioxide.
13. The nutrients that should be increased in the diet of a pregnant woman to maintain a healthy pregnancy are
- A. protein, iron, calcium and folic acid.
 - B. saturated fats, sodium, and carbohydrates.
 - C. carbohydrates, unsaturated fats, vitamin E.
 - D. saturated fats, sodium, vitamin E and vitamin K.

14. In humans, the inheritable blood disorders are

- I. anaemia
- II. leukaemia
- III. haemophilia
- IV. thalassemia

- A. I and II.
- B. I and III.
- C. II and IV.
- D. III and IV.

15. Before a dental surgery, a dentist wants to evaluate the efficiency of patient's blood clotting that will help to stop excessive bleeding during the procedure.

In the patient's blood report, the dental surgeon will MAINLY check the number of

- A. platelets.
- B. antibodies.
- C. red blood cells.
- D. white blood cells.

16. Given are the symptoms observed in a patient with a dietary disorder

- Skipping meals
- An intense fear of gaining weight
- Being extra conscious about body shape and size

Based on the given symptoms, the dietary disorder is

- A. bulimia nervosa.
- B. anorexia nervosa.
- C. binge eating disorder.
- D. restrictive food intake disorder.

17. The blood group of a person that lacks antibodies A and B in blood plasma is

- A. blood group O.
- B. blood group AB.
- C. blood group B.
- D. blood group A.

18. Which of the following dietary habits (if followed regularly) may increase the risk of obesity, diabetes, and heart diseases?

- A. Drinking a glass of milk at night
- B. Consuming fizzy drinks with lunch meals
- C. Taking a glass of fresh fruit juice at breakfast
- D. Eating a bowl of fruit salad in between breakfast and lunch

19. The term 'balanced diet' is defined as
- A. an adequate intake of the nutrients to maintain good health.
 - B. the process of obtaining food necessary for health and growth.
 - C. the specific intake of nutrition for weight-management reasons.
 - D. a set of reference values used to assess nutrient intake of healthy people.
20. In a human body, the presence of fats serves all of the following functions EXCEPT
- A. storing energy.
 - B. keeping the body warm.
 - C. protecting vital body organs.
 - D. growth and maintenance of tissues.
21. Consider the given food items.



These food items are MAINLY rich in

- A. iron.
 - B. calcium.
 - C. vitamin A.
 - D. vitamin D.
22. The given image depicts one of the procedures given during first aid.



This kind of first aid is given during

- A. choking.
 - B. diarrhoea.
 - C. vomiting.
 - D. electric shock.
23. All of the following diseases occur due to malnutrition EXCEPT
- A. goiter.
 - B. obesity.
 - C. emphysema.
 - D. heart diseases.

24. The physical activity that is BEST suited for changing sedentary lifestyle is
- A. using stairs instead of elevator.
 - B. riding a motor bike instead of cycling.
 - C. playing video games instead of doing aerobics.
 - D. sitting while chatting on phone instead of walking around.
25. The given image represents one of the medical conditions.


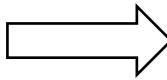
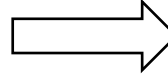

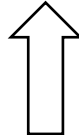
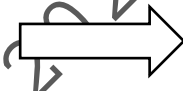

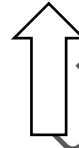
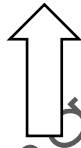


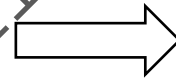


The pathogen which causes this condition is a

- A. virus.
 - B. fungus.
 - C. round worm.
 - D. thread worm.
26. The food item that contains the highest amount of energy (calories) is a
- A. glass of mango shake.
 - B. bowl of boiled beans.
 - C. plate of boiled rice.
 - D. cup of yogurt.
27. The option that CORRECTLY classifies the fast food and processed food items is

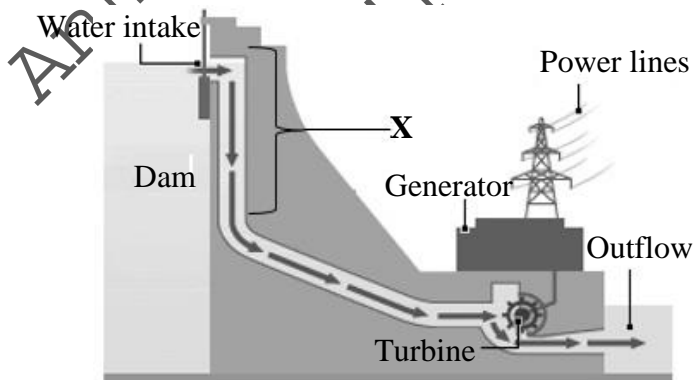
| | Fast Food | Processed Food |
|---|---------------------------------|---------------------------|
| A | ready-made cake-mix | kebab <i>paratha</i> roll |
| B | zinger burger with French fries | instant noodles |
| C | soft drink | packaged bread |
| D | crackers | frozen <i>samosas</i> |

28. Based on the direction of force and motion, work is done in examples

| | Example | Direction of Force | Direction of Motion |
|-----|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| I |  |  |  |
| II |  |  |  |
| III |  |  |  |
| IV |  |  |  |

- A. I and III.
- B. II and III.
- C. II and IV.
- D. I, II and IV.

29. The given diagram shows the hydroelectric generation power plant.



The option that CORRECTLY shows energy conversion at the labelled region X is

- A. kinetic energy → electrical energy.
- B. kinetic energy → gravitational potential energy.
- C. gravitational potential energy → kinetic energy.
- D. gravitational potential energy → electrical energy.

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30. Which of the following energy sources produces carbon dioxide in the environment?

- A. Oil
- B. Solar
- C. Wind
- D. Uranium

31. All of the following types of fossil fuels are formed underneath the Earth's crust from partially or fully decomposed plants or animals EXCEPT

- A. coal.
- B. uranium.
- C. petroleum.
- D. natural gas.

32. Ahmed is a student who lives in an area where the trees are cut down to meet the residency requirement of people.

For environmental sustainability, Ahmed can play his role by

- A. growing more plants.
- B. complaining against the builders.
- C. rebuilding houses to make it more spacious.
- D. finding unused lands to accommodate people.

33. In Pakistan, many rural areas are still not connected to the central electricity grid, and other commercial energy sources are often too expensive for poor people.

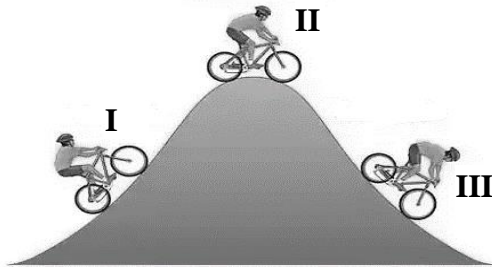
In the given case, the BEST alternative energy resource for the people of rural areas would be

- A. tidal energy.
- B. nuclear energy.
- C. biomass energy.
- D. hydrothermal energy.

34. All of the following are the uses of coal EXCEPT that it is used

- A. as domestic fuel.
- B. in power generation.
- C. as fuel in nuclear power plants.
- D. in the manufacturing of iron and steel.

35. Consider the given figure.



The option that depicts the energy possessed by the cyclist at points II and III is

| | II | III |
|---|--------------------------|--------------------------|
| A | highest potential energy | highest kinetic energy |
| B | highest kinetic energy | highest potential energy |
| C | lowest potential energy | lowest kinetic energy |
| D | highest potential energy | lowest kinetic energy |

36. Big dams are constructed for the production of

- A. tidal energy.
- B. thermal energy.
- C. geothermal energy.
- D. hydroelectric energy.

37. All of the following are the consequences of global warming EXCEPT an increase in the

- A. sea level.
- B. number of storms.
- C. number of forests.
- D. health related issues.

38. A photovoltaic cell converts sunlight into

- A. biogas.
- B. electricity.
- C. heat energy.
- D. sound energy.

39. Which of the following options CORRECTLY represents the unit and symbol of resistance?

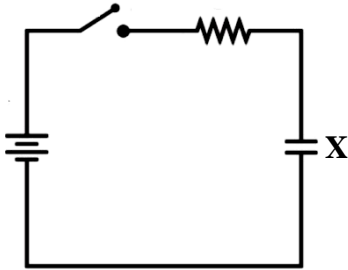
| | Unit | Symbol |
|---|---------|----------|
| A | Ampere | A |
| B | Voltage | V |
| C | Ohm | Ω |
| D | Watt | W |

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40. An electric current of 0.02 A flows through an LED bulb. If the potential difference between two points of the LED bulb is 5 V, then the value of resistance will be

- A. 0.1 Ω .
- B. 4.98 Ω .
- C. 5.02 Ω .
- D. 250 Ω .

41. The symbol labelled as X in the given circuit diagram represents a

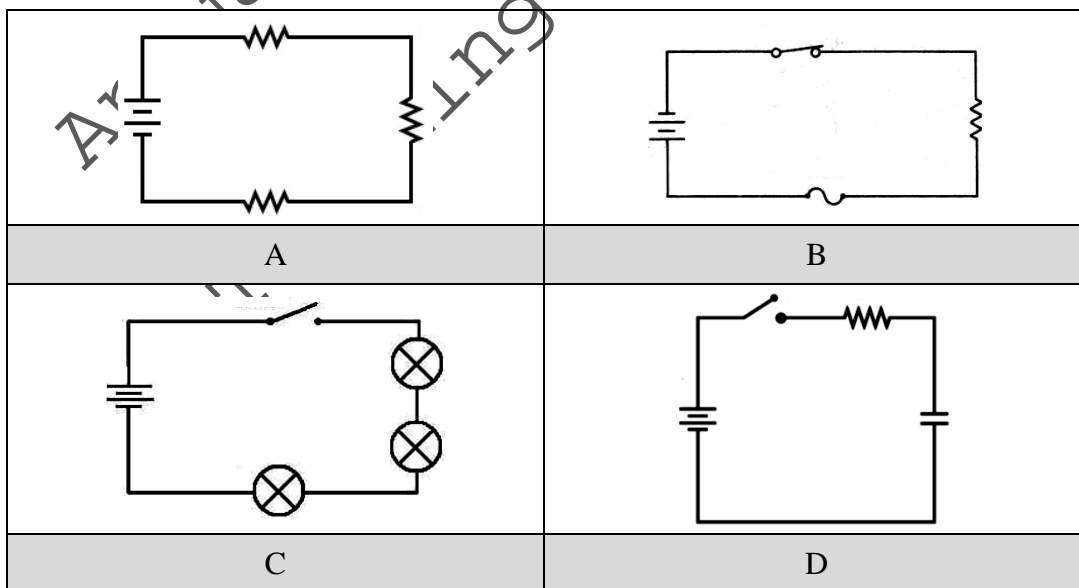


- A. switch.
- B. battery.
- C. resistor.
- D. capacitor.

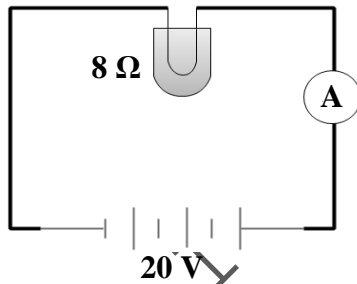
42. Which of the following is the use of a fuse in an electric circuit?

- A. Change the magnitude of current
- B. Store charges in an electric circuit
- C. Offer resistance to the flow of current
- D. Protect equipment from the excessive flow of current

43. Which of the following circuits shows the series combination of resistors?

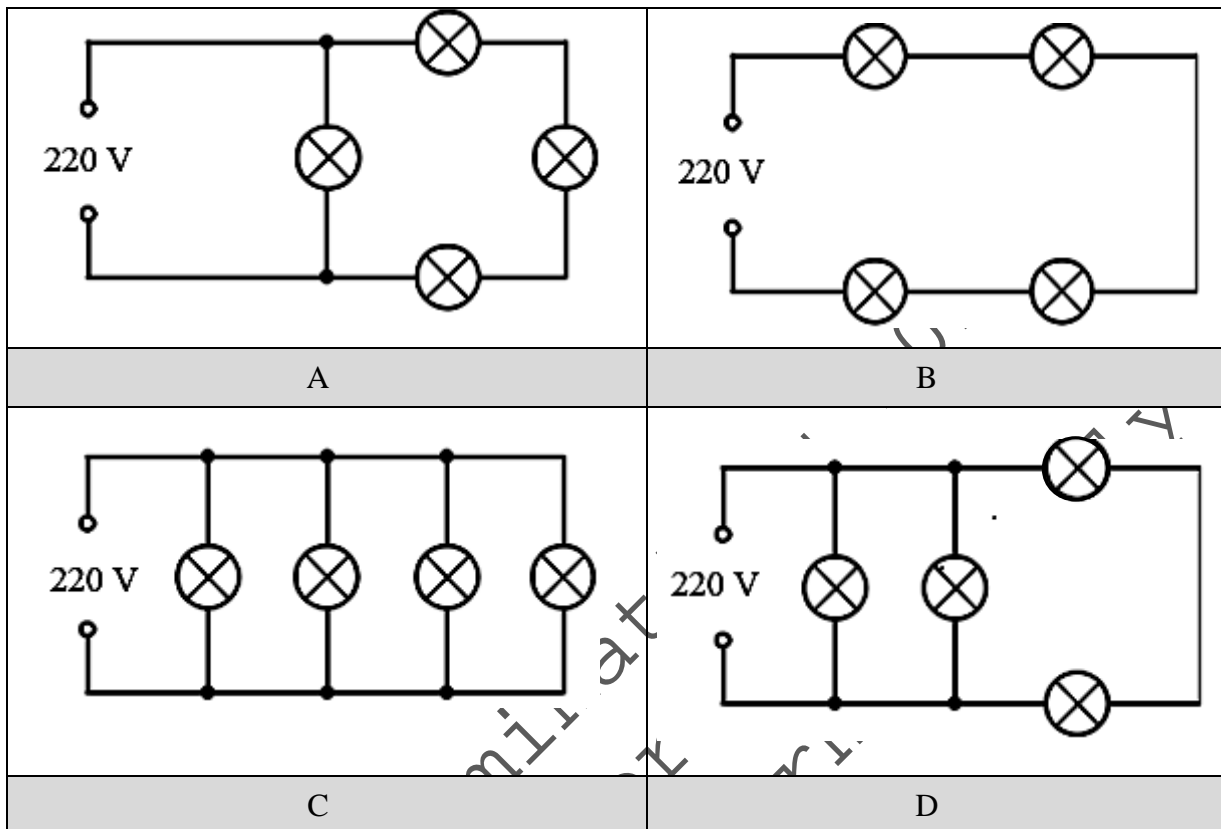


44. An ammeter is used in an electric circuit to measure
- A. electric current.
 - B. electric voltage.
 - C. resistance in a circuit.
 - D. both electric current and resistance.
45. Which of the following devices uses alternating current (AC) for their operation?
- A. flashlights.
 - B. cell phones.
 - C. electric motors.
 - D. electric vehicles.
46. In an electric circuit, the range of an ammeter can be increased by connecting it with
- A. low resistance in series.
 - B. high resistance in series.
 - C. low resistance in parallel.
 - D. high resistance in parallel.
47. The reading of ammeter in the given electric circuit will be



- A. 0.4 A.
- B. 2.5 A.
- C. 12 A.
- D. 28 A.

48. Four light bulbs each of 12 V are connected with the power source of 220 V in the given circuits. The circuit in which all the four bulbs will have equal brightness is



49. In home electrical systems, lamps are connected in parallel circuits (not in series). The reason is that
- the lamps take less current from the power supply.
 - the addition of more lamps decreases their brightness.
 - the lamps can be turned off independently using switches.
 - if one lamp stops working, the remaining lamps become brighter.
50. The first aid that is provided to a person suffering from fire burn is to
- apply antibiotics on the affected area.
 - wash the affected area with cold water.
 - cover the affected area with a piece of cloth.
 - provide artificial breathing to the affected person.

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