

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX EXAMINATION

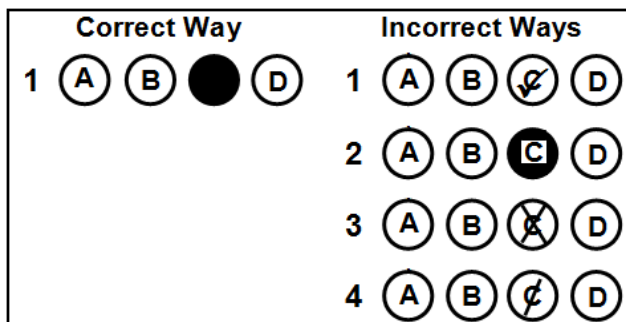
APRIL/ MAY 2019

Environmental Studies Paper I

Time: 45 minutes Marks: 30

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 30 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.



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.

1. An example of marine environment is a/ an
 - A. river.
 - B. ocean.
 - C. stream.
 - D. wetland.

2. The Sumatran tiger is found on the Indonesian island of Sumatra. In 2008, it was classified as 'critically endangered' by the
 - A. Civil Society Organisation.
 - B. World Health Organisation.
 - C. World Conservation Monitoring Centre.
 - D. International Union for Conservation of Nature.

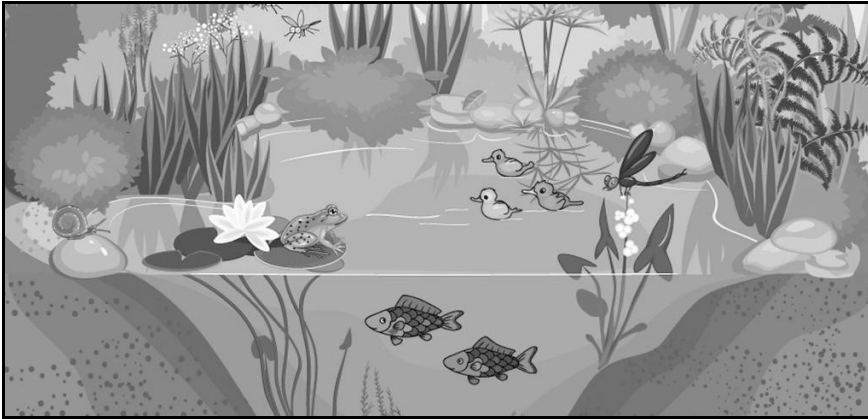
3. Environmental Science and Biology are correlated as these subjects deal with the study of
 - A. behaviour and minds of the human beings.
 - B. diverse communities and their interactions.
 - C. interactions among organisms and their environment.
 - D. biological processes at the cellular and molecular level.

4. One of the terrestrial planets in the solar system is
 - A. Venus.
 - B. Saturn.
 - C. Jupiter.
 - D. Neptune.

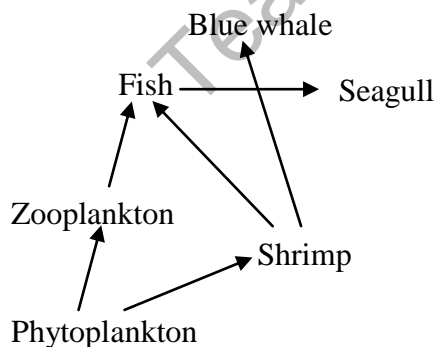
5. The combined mass of water found on, under and above the surface of a planet is the
 - A. biosphere.
 - B. lithosphere.
 - C. atmosphere.
 - D. hydrosphere.

6. In contrast to other planets of the solar system, the Earth is habitable because of all of the following reasons EXCEPT
 - A. rotation of earth on its axis.
 - B. distance of earth from the moon.
 - C. cycling of chemicals in ecosystem.
 - D. presence of water and mineral resources.

7. The given figure is an example of a/ an



- A. population.
 - B. ecosystem.
 - C. atmosphere.
 - D. hydrosphere.
8. A considerable amount of water enters into the atmosphere through the process of
- A. respiration.
 - B. transpiration.
 - C. condensation.
 - D. photosynthesis.
9. An increase in the addition of nitrogen containing fertilisers to the soil does NOT result in
- A. oxygen saturation.
 - B. nitrogen saturation.
 - C. weaker productivity.
 - D. destruction of plants.
10. The given diagram shows a simple food web.



The primary consumers in the given food web are

- A. seagull and fish.
- B. blue whale and seagull.
- C. zooplankton and shrimp.
- D. phytoplankton and zooplankton.

PLEASE TURN OVER THE PAGE

11. The food chain which retains most of the energy is
- A. cabbage → man
 - B. fruits → bats → eagle
 - C. carrots → rabbit → fox → lion
 - D. grass → grasshopper → frog → snake → hawk
12. A nature based solution that helps in sustaining the natural ecosystems is
- A. cycling of material by the decomposers.
 - B. invasion of non-native species in forests.
 - C. rise in oxides of sulphur in the atmosphere.
 - D. increase in the number of consumers than that of producers.
13. An example of a carnivore feeding on the herbivore is a
- A. fungi eating trees.
 - B. snake eating mice.
 - C. rabbit eating carrots.
 - D. snail eating dandelion.
14. What happens in the nitrification step of the nitrogen cycle?
- A. Ammonia is released from the dead protoplasm.
 - B. Nitrates are formed by the oxidation of ammonia.
 - C. Nitrates are broken down in the absence of oxygen.
 - D. Nitrogen is incorporated into the amino acids of producers.
15. Population projection is independent of
- A. birth rate.
 - B. death rate.
 - C. attitude of people.
 - D. migration of people.
16. The size of the population of a country does NOT reduce due to
- A. famine.
 - B. diseases.
 - C. urbanisation.
 - D. family planning.
17. According to the rule of 70, if a nation has an annual growth rate of 2.5%, then its population will approximately double in
- A. 14 years.
 - B. 28 years.
 - C. 67 years.
 - D. 72 years.

18. The factor that causes a decrease in the population size of a country is
- A. natality.
 - B. mortality.
 - C. immigration.
 - D. immunisation.
19. Suppose 100 bacteria are present in a microbial culture and their population size is recorded every hour. At the start of the second hour, 200 bacteria are recorded, then 400 at the start of the third hour, 800 at the start of the fourth hour, and so on till the essential nutrients get exhausted.

The given scenario shows

- A. linear growth.
 - B. life expectancy.
 - C. exponential growth.
 - D. population projection.
20. The following table shows the population size and densities of important cities of the world as counted in 2008.

Which of the following cities has more individuals per square km area?

	City	Population	Population Density
A	Mexico	8,836,045	5,950
B	Moscow	10,452,000	9,644
C	Karachi	12,991,000	3,957
D	Tehran	7,797,520	10,260

21. Due to overgrowing demand for food products, a huge amount of trees are cut down to grow crops and for cattle grazing. The cutting down of trees affects the environment by an increase in
- A. carbon dioxide.
 - B. sulphur dioxide.
 - C. sulphur trioxide.
 - D. carbon monoxide.
22. Indoor air pollution can be caused by
- A. forest fire.
 - B. tobacco smoke.
 - C. vehicle emission.
 - D. volcanic eruption.

23. The purpose of aeration in wastewater treatment is to
- A. separate grease.
 - B. kill microorganisms.
 - C. remove large solid objects.
 - D. decompose organic wastes.
24. An example of biomedical waste is
- A. fertiliser.
 - B. fossil fuel.
 - C. pesticides.
 - D. animal tissues.
25. Soil erosion occurs naturally through wind and water but farming activities make it even worse. The MOST environmental-friendly remedy to prevent the erosion of the field's topsoil would be
- A. planting of grass and shrubs.
 - B. using tillage farming technique.
 - C. using fine sand, silt and clay-textured soil.
 - D. having steeper and longer slope of agricultural field.
26. An INCORRECT way of disposing radioactive waste is to
- A. burn it in the incineration furnace.
 - B. store it at geologically stable sites.
 - C. seal it in a non-corrosive container.
 - D. store it deep under the ground in concrete vaults.
27. The sound of a lawn mower is classified as noise because it produces
- I. soothing and pleasing effect
 - II. loud and meaningless sound
 - III. irregular waveform and wavelength
- A. I only.
 - B. II only.
 - C. I and III.
 - D. II and III.
28. Loud music and noise cause pollution that affects human health. Apart from damaging human ears, they may also cause
- A. fever.
 - B. asthma.
 - C. cholera.
 - D. hypertension.

29. According to doctors, a pregnant woman should not have abdominal X-ray. This is because the exposure to high-dose radiation increases the risk that the baby will be born with a/ an
- A. skin rash.
 - B. eye infection.
 - C. intellectual disability.
 - D. electrolyte imbalance.
30. Radiation therapy not only destroys cancerous cells but also damages healthy cells in the treatment area. The healthy cells that are affected the MOST include
- A. fat cells in the adipose tissue.
 - B. blood cells in the bone marrow.
 - C. cardiac muscle cells in the heart.
 - D. muscle cells in the muscle tissue.

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