KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA [KUSTEM]

FAKULTI SAINS DAN TEKNOLOGI

PEPERIKSAAN AKHIR

SEMESTER NOV 2004 / 2005

NAMA KURSUS : ALAM SEKITAR & PEMBANGUNAN
KOD KURSUS : SKL 3202
TARIKH : 17hb MAC 2005
TEMPAT : MK 12 & MK 13
MASA : 

NO. MATRIK : 

ARAHAN KEPADA CALON

- BAHAGIAN A : JAWAB SEMUA SOALAN
- BAHAGIAN B : JAWAB LAPAN (8) SOALAN SAHAJA
- BAHAGIAN C : JAWAB SEMUA SOALAN

(KERTAS SOALAN INI MENGANDUNGI 8 MUKA SURAT BERCETAK)

JANGAN BUKA BUKU SOALAN INI SEHINGGA DIBERITAHU
PART A (50 MARKS)

BAHAGIAN A (50 MARKAH)

INSTRUCTION / ARAHAN: Answer All Question (Jawab Semua Soalan)
Mark a B for a correct answer and S for the wrong answer. A 0.5 mark will be deducted from the wrong answer. (Tandakan B bagi jawapan yang Betul dan S bagi jawapan yang Salah. Jawapan yang salah akan ditolak 0.5 markah)

1. Environment was defined as the coverage of all factors that interact the survival of organism or population on the earth

2. Environmental sustainability enables humanities present needs to be fulfill without endangering the welfare of future generations

3. Some of the human population issues are the consuming more food and water besides producing more waste and pollution

4. Population of humans currently is about 6 billion and will increase to 9.3 billion by the year 2050

5. MDCs is a more developed countries and LDCs is a less developed countries

6. The activities of humans are drastically changing the earths atmosphere such as CO₂ has increased from 280 to 360 ppm in 200 years

7. Emissions of sulfur dioxide and nitrogen oxides can caused the formation of acid rain precipitation and deposition in the atmosphere

8. The highest rate at which a renewable resource can be used without decreasing its potential for renewable is called its sustained yield

9. Earth is primarily composed of four elements, O, Si, Fe and Al and the most common minerals are those containing Si and O

10. Rocks are a solid aggregate of minerals and sediments are broken up rocks and mineral fragments

11. Hydrosphere refer to water which consist of 70% of the earth superficial and lithosphere are the crust, mantel and core of the earth

12. The global climate system involves the flow of energy as well as matter through the geosphere, the atmosphere, the hydrosphere and the biosphere
13. Energy is defined simply as the capacity for doing work and matter is the material that constructs things on the earth

14. Solar energy is created at the core of the sun when hydrogen atoms are converted into helium by nuclear fusion

15. The product of photosynthesis is a carbohydrate, such as glucose and oxygen which is released to the atmosphere

16. Heterotrophs who obtain their energy from living organisms are called consumers

17. Most living tissue is composed of a high percentage of water and they receive their water from the earth's surface and soil

18. Consumer organisms that feed on organic matter or detritus are known as detritivores or decomposers

19. Community refers to all the populations in a specific area or region at a certain time. Its structure involves many types of interactions among species

20. The rate of change of population size dN/dt is given by the differential equation; dN/dt = rN

21. Death rate are number of deaths per unit time and a crude death rate are number of deaths per year per 1000 individuals

22. Industrial agriculture produces huge quantities of a single species of crop or livestock and this is accomplished by mechanization and the use of large quantities of fossil fuels for machinery and fertilizers

23. Food production is increased either by cultivating more land or by producing bigger yields

24. An important factor influencing the productivity of any ecosystem is the nature of its soil and they are the product of a living environment

25. Erosion is a process where wind and water facilitate the movement of top soil from one place to another

26. Crop rotations are a central component of almost all sustainable farming system. It involves the succession of various crops growing on a field
27. Integrated pest management is another common aspect of sustainable farming which integrates both biological, mechanical and chemical methods to control pests while minimizing the affects to the environment.

28. Carrying capacity defined as the maximal population size of a given species in an area without reducing its ability to support the same species in the future.

29. The current population of earth is about 5.8 billion people and will stabilize to 60 billion people in 2075.

30. Population can poison our air, water and soil and it can occur intentionally or unintentionally.

31. The noxious gases such as carbon monoxide and nitrogen oxides are the major source of pollution in the air.

32. Diesel smoke is one type of the pollution that release particles that are sometimes refer to as black carbon pollution.

33. Air pollution for level 100 – 200 is considered healthy.

34. There are many sources of indoor air pollution such as cooking and heating appliances, paints and vapor from building material.

35. Pesticides are chemical pollution type that use in the agriculture for controlling insects and weeds.

36. Pathogenic microorganism like bacteria, viruses and protozoa are the microbiological pollution type.

37. Dead algae and weeds can become biodegradable waste and can cause the serious problem to CO2 depletion in water.

38. Toxic material can accumulate in sediment and can affect the food chain flow.

39. Wastes that are discharged into marine waters are estimated to be non-conservative.

40. The processes of eutrophication can produce problems such as bad tastes and odors in water.

41. Some effect of the oil spills might make the snails to gain their ability to attach to the rocks.
42. Ozone depletion is a hole where ozone concentration is lowest of any place in the world.

43. The most economic methods of getting rid of waste materials are the sanitary landfill method.

44. Hazardous waste is any discarded substance that is fatal to humans or organisms at low quantities.

45. Under ideal conditions, hazardous waste in the incinerators can destroy less than 50% of the hazardous materials.

46. Environmental means the components of the earth and includes air, land, water and atmosphere.

47. Two main purpose of the environmental law are to protect the environment ad to protect the economic interests only.

48. The function of the environmental law at Malaysia is to promote, ensure and sustain sound environmental management in the process of nation building.

49. One of the strategies of the department of Environmental is to control the human population.

50. We use water daily at about 150 gallons per year per person.
PART B (40 marks)

BAHAGIAN B (40 MARKAH)

INSTRUCTION / ARAHAN: ANSWER ONLY 8 QUESTIONS (JAWAB 8 SOALAN SAHAJA)

1. Give the definition of the following terms:
   a. Biotic factor
   b. Abiotic factor
   c. Biota
   d. Population
   e. Ecotone
   f. Biosphere

2. Differentiate environmental science and environmental studies and briefly explain why it is important.

3. A resource is anything that an organism uses and consumes from the environment. Some resources are directly available for use, while other resources must be extracted at some cost to the organism. The two types of resources are the renewable and the non-renewable. Explain in details with examples for the both types of the resources.

4. Solar energy is used in the earth system in many different processes. Explain briefly the role and function of the solar energy to earth system.

5. Differentiate a food chain and a food web. Draw one example of a food chain in the ecosystem.

6. Explain in details of ONE of the following that are function in the ecosystems
   a. Photosynthesis.
   b. Respiration.
   c. Grazing food chain
   d. Detritus food chain

7. There are several main types of pollution and well know as effects of pollution which are commonly discussed. These include smog, acid rain and the greenhouse effect. Briefly explain and differentiate those types of pollution.
8. Explain briefly with examples how air pollution may hurt your health.

9. Most hazardous waste is generated from metal processing, mining, chemical production and many others. A number of techniques have been used to dispose those toxic wastes. Lists and explain briefly the three technique of the waste disposal.

10. Explain briefly with examples of the following item.
   a. Reduce
   b. Reuse
   c. Recycle
PART C (10 marks)

BAHAGIAN C (10 MARKAH)

INSTRUCTION/ARAHAN: ANSWER ONLY 1 QUESTION (JAWAB 1 SOALAN SAHAJA)

1. Most soils have a distinctive profile or sequence of horizontal layers. Generally, these horizons result from the soil processes of eluviation, illuviation and organic activity. State and explain in details those horizontal layers. Also, explain the roles of the eluviation, illuviation and organic matter in the formation of soil profiles.

2. An integrated waste management system combines two or more of the following processes, which are source reduction, reuse, recycling, composting, incineration and landfill. Explain in detail TWO of the process.

PART D (5 marks)

BAHAGIAN D (5 MARKAH)

Sebagai seorang pelajar KUSTEM, anda seharusnya mengenali kakitangan diskitangan utama yang terdapat di KUSTEM. Namakan kakitangan – kakitangan yang memegang jawatan – jawatan berikut.

1. Rektor
2. Timbalan Rektor (Akademik)
3. Dekan Fakulti Sains dan Teknologi
4. Timbalan Dekan FST (Akademik & HEP)
5. Ketua Jabatan program anda