

Instructions: Answer **all** questions. All the sections are compulsory.

**SECTION A:**

Write down the letter corresponding to the correct alternative.

1. The angular distance from the Equator is  
A. Altitude      B. Relief      C. Latitude      D. Amplitude
2. The removal of top soil by agents is known as;  
A. Leaching      B. Erosion      C. Weathering      D. Mass wasting
3. The B-Horizon of the soil profile is the  
A. Parent rock      B. Sub soil      C. Top soil      D. Gravel
4. Which of the following are all agents of erosion?  
A. wind, waves, man      C. glaciers, waves, rain drops  
B. running water, animals, glaciers      D. wind, running water, animals
5. Coastal areas next to warm ocean currents experience  
A. high rainfall      B. low rainfall      C. Orographic rainfall      D. moderate rainfall
6. An example of a rain bearing cloud is  
A. Stratus      B. Cumulus      C. Altocumulus      D. Nimbostratus
7. The Latitude numbered 23½° S is the  
A. Tropic of cancer      C. Arctic Circle  
B. Tropic of Capricorn      D. Antarctic Circle
8. Soil texture refers to  
A. How soil particles are held together      C. Stratification of soil layers.  
B. Size of soil particles.      D. Sequence of arrangement of soil types.
9. Temperature in Mombasa are high mainly because of the  
A. Low latitude      C. Warm winds  
B. Low altitude      D. Heavy rainfall
10. Which of the following descriptions is characteristic of the earth's outer core  
A. Temperatures are 4500 – 6000°C      C. It is solid in nature  
B. It is in a molten state      D. It is made of rocks of very high density
11. The most abundant greenhouse gas in the atmosphere is  
A. Nitrous oxide      B. Carbon dioxide      C. Methane      D. Chlorofluorocarbons

12. In case the time in an area  $40^{\circ}$  west is 12.00 hours, what would be the time in a place along longitude  $10^{\circ}$  west?  
A. 14.00 hours    B. 10.00 hours    C. 11.20 hours    D. 12.40 hours
13. What would be the relative humidity of the atmosphere when the absolute humidity is  $15\text{gms/m}^3$  and the maximum vapour content the air can hold at that temperature is twice as much?  
A. 15%                    B. 85%                    C. 50%                    D. 30%
14. The earth's rotation causes  
A. Differences in the altitude of the mid day sun                    C. occurrence of seasons  
B. Differences in the lengths of days and nights                    D. deflection of air masses
15. Which of the following climatic conditions is experienced in the leeward side of mountains?  
A. Rain shadow effect                    C. high temperature  
B. heavy rainfall                    D. temperature inversion
16. Which of the following highlands are volcanic mountains?  
A. Elgon, Kilimanjaro, Rwenzori                    C. Muhavura, Elgon, Usambara  
B. Kilimanjaro, Usambara, Elgon                    D. Kilimanjaro, Elgon, Muhavura
17. The gas that constitutes the largest composition of the atmosphere is  
A. Oxygen                    B. Nitrogen                    C. Carbon dioxide                    D. Ozone
18. Which of the following statements is true?  
A. The higher the altitude the higher temperature.  
B. The leeward side of mountains experiences more rainfall.  
C. The higher the latitude the lower the temperature.  
D. When two air masses meet the cold air rises on top of the warmer air mass.
19. Winds result from differences in  
A. Atmospheric pressure                    C. Rainfall  
B. Relative humidity                    D. Cloud cover
20. Which of the following is an effect of sea breezes?  
A. High rainfall on land                    C. Arid conditions over land  
B. Warm conditions on land                    D. Low temperature at night
21. Gases that mostly destroy the ozone layer are  
A. CFCs                    B. HFCs                    C. Methane                    D. carbon dioxide
22. The ozone layer absorbs the sun's  
A. Visible light rays                    C. Infrared light  
B. Ultra violet rays                    D. X-rays

23. The natural process by which gases like carbon dioxide absorb radiation and keep the earth's surface warmer than it would otherwise be is  
 A. Global warming  
 B. Temperature inversion  
 C. Greenhouse effect  
 D. Adiabatic Warming
24. Any actions aimed at reducing or avoiding greenhouse gas emissions are referred to as  
 A. Adaptation B. Sequestration C. Mitigation D. Resilience
25. Adjustments in natural and human systems to cope with problems of Climate change are referred to as  
 A. Adaptation B. Vulnerability C. Mitigation D. Resilience  
 (25 mks)

**SECTION B:**

26. Study the table below and answer the questions that follow.

**Precipitation and temperature figures for Station A**

| Month              | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Precipitation (mm) | 50  | 45  | 55  | 45  | 55  | 70  | 80  | 70  | 40  | 60  | 55  | 50  |
| Temperature (°C)   | 1   | 2   | 5   | 7   | 10  | 15  | 19  | 17  | 12  | 6   | 4   | 3   |

- a) Draw a combined bar and line graph to show the precipitation and temperatures of Station A. (9 mks)
- b) State the  
 i) Temperature of the hottest month. (1 mk)  
 ii) Month with the least precipitation. (1 mk)
- c) Calculate the  
 i) Annual range of temperature. (2 mks)  
 ii) Mean annual precipitation. (2 mks)
- d) i) Mention the characteristics of the climate experienced at Station A. (4 mks)  
 ii) State the type of climate experienced in station A. (1 mk)
- e) Give **five** (5) possible reasons why an area may experience low rainfall. (5 mks)

### SECTION C: FIELDWORK

27. For any **one** field work study you have carried out as a group on a large scale research farm;
- (a) (i) State the topic study. *(2 mks)*
  - (ii) State the objectives of the study. *(4 mks)*
  
  - (b) Describe the activities you carried out in preparation for the fieldwork study. *(5 mks)*
  
  - (c) With the use of a relevant diagram, describe how you used **either** panorama sketching **or** transect drawing during the fieldwork study. *(5 mks)*
  
  - (d) What problems did you face in trying to gather information while in the field? *(4 mks)*
  
  - (e) Describe the major agricultural activities carried out in the farm you studied. *(5 mks)*