



(ii) Explain the effect of pressure on the distribution of aquatic organisms. 7 marks

## **QUESTION TWO**

(a)(i) Describe the structure and distribution of phosphatic microfossils 8 marks

(ii) Briefly describe the Earth's lithosphere. 7marks

(b)(i) Before the emergence of life, what gases composed the earth's primitive atmosphere?  
3marks

(ii) What are the major distinctions between prokaryotes and eukaryotes? 2 marks

## **QUESTION THREE**

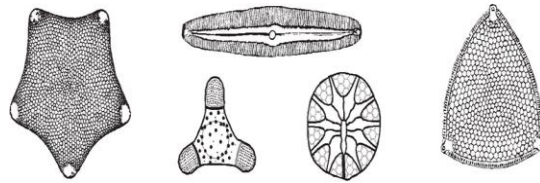
(a)(i) Describe geologic history of oxygen 8 marks

(ii) Discuss methods of petroleum exploration

7 marks

(b)(i) Distinguish between lotic system ecology and lentic system ecology 2marks

(ii) Identify the microfossils shown and state how they associated with formation of petroleum 3 marks



#### QUESTION FOUR

(a)(i) Discuss microbial enhanced oil recovery method in petrology

8 marks

(ii) Describe the uses of microbial biosensors

6marks

(b) (i) Define the term bioleaching and importance in metal mining

2 marks

(ii) State factors Influencing petroleum hydrocarbon degradation 4 marks

(iii) State any two hydrocarbonoclastic bacteria 2 marks

### **QUESTION FIVE**

(a)(i) Explain the role of geomicrobiology in removal and disposal of heavy metals and Pollutants 8 marks

(ii) State the interacting mechanisms required for hydrocarbon degradation 5marks

(b)(i) Explain the consequences of build up of oxygen in the early atmosphere 3 marks

(ii) Describe the use of microorganisms in the exploration of oil 4mark