

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI
SCHOOL OF PHYSICAL SCIENCES
DEPARTMENT OF SCIENCE LABORATORY TECHNOLOGY
RAIN SEMESTER EXAMINATION 2015/2016 SESSION
STG 316: MICROPALAEONTOLOGY
TIME ALLOWED: 2 HOURS
INSTRUCTION: ANSWER FOUR (4) QUESTIONS ONLY

QUESTION 1

- (a) Describe the morphologic and biostratigraphic significances of the following microfossils:
(i) Marine Diatoms (ii) Conodont (iii) Dinoflagellates (12mks)
- b. List out the major depositional environments and attempt a reconstruction of its ancient counterparts using microfossils (8mks)

QUESTION 2

- (a) Describe with explicit illustrative aids, the morphological features of Foraminifera with reference to:
(i) Test/wall structure (ii) Chamber shapes and arrangements (iii) Shape and position of aperture (iv) Ornamentation (12mks)
- (b) Give an abridged taxonomic classification hierarchy of the order Foraminiferida from the phylum to the Sub-order levels. (8mks)

QUESTION 3

- (a) Discuss briefly on Spores and Pollen morphologies. Why are they considered to have added advantages over other microfossils (10mks)
- (b) Assess the factors that may affect the nature of pollens and spores in the marine ecosystem. (5mks)
- (c) List out only, the important applications of palynological studies (5mks)

QUESTION 4

Discuss the applications of microfossils in the following aspects of geological investigations:

- (i) Biostratigraphy (5mks)
(ii) Paleogeography/Paleoclimatology (5mks)
(iii) Paleobathymetry (5mks)
(iv) Hydrocarbon Exploration/Exploitation (5mks)

QUESTION 5

Write short notes on the following Terms/or Concepts:

- (i) High-resolution Biostratigraphy (5mks)
(ii) Coiling styles in the multi-locular Foraminifera (5mks)
(iii) Sample collection, treatment and Data Archiving for Microfossils (5mks)
(iv) Paleontological characteristics of System tracts and Maximum flooding surfaces (5mks)