



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BTMB

AAB4303 : PETROLEUM GEOMICROBIOLOGY PAPER 2

SPECIAL SUPPLEMENTARY EXAMINATION

SERIES: AUGUST 2017

TIME: 2 HOURS

DATE: 18 Sep 2017

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. Attempt Choose instruction.

Do not write on the question paper.

Question ONE

- a)(i) List factors that determine the amount of oil to be recovered from a reservoir 6marks
- (ii) Describe the process of tertiary oil recovery 8marks
- b)(i) Describe the morphology of organic microfossils 7marks
- (ii) State the disadvantages of microbial enhanced oil recovery 5marks
- (iii) State the importance of biostratigraphy in petroleum exploration 4 marks

Question TWO

- a)(i) Describe chemical origin and accumulation of petroleum 8marks

(ii) Explain the role of biosurfactants in petrology 7marks

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

Question THREE

a)(i) Discuss the importance of microorganisms in the Ocean 8 marks

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

b) Other than bacteria and fungi describe any other organisms that are capable of xenobiotic degradation
5marks

Question FOUR

a)(i) Describe mechanism of petroleum hydrocarbon degradation 7marks

(ii) Discuss the biological methods of controlling petroleum pollution 8 marks

(iii) Describe how metallomonas bacteria corrode metals in anaerobic condition 5marks

Question FIVE

a) (i) Explain the role of Benthic microorganisms in the ocean ecosystem 8marks
b)

(ii) Explain the procedures involved in micropalaentology 6marks

b)(i) Discuss the use of biostratigraphy to locate microfossils 6marks