



KISII UNIVERSITY
UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF
THE DEGREE OF BACHELOR OF SCIENCE IN MEDICAL LABORATORY
SCIENCES
SECOND SEMESTER 2015/2016
(JANUARY-APRIL 2016)

MELS 161: INTRODUCTION TO MEDICAL MICROBIOLOGY.

STREAM: Y1S2

TIME: 3 HOURS

DAY: TUESDAY 09.00 – 12.00

DATE: 05/04/2016

INSTRUCTIONS

- 1. Do not write anything on this Question paper.***
- 2. Answer All Questions.***

gms

KISII UNIVERSITY
SCHOOL OF HEALTH SCIENCES
DEPARTMENT OF LABORATORY SCIENCES
MELS 161: INTRODUCTION TO MEDICAL MICROBIOLOGY

SECTION A: MCQ:

ANSWER ALL QUESTIONS - CIRCLE ONLY THE CORRECT ANSWERS (20 MARK)

1. Which of the following best characterizes disinfectant effectiveness
 - A. Harmful to instrument and equipments used
 - B. Kill or inhibit growth of undesirable microbes
 - C. May be used in any concentrations
 - D. Be used on unclean, rinsed and wet instruments
 - E. Used within the stipulated lifetime after dilution.

2. Which one of the following agents lacks nucleic acid?
 - A. Bacteria
 - B. Viruses
 - C. Viroid
 - D. Prions
 - E. Protozoa

3. Which one of the following is not a protist?
 - A. Bacteria
 - B. Protozoa
 - C. Fungi
 - D. Yeast
 - E. Viruses

4. Eukaryotic cells are the evolutionary consequence of a _____ relationship between an ancient small cell and bacteria engulfed by a larger cell.
 - A. Diffusion
 - B. Pathogenic
 - C. Symbiotic
 - D. Endocytosis
 - E. Fission

5. The following are true disinfectant types
 - A. 0.1% Phenolics
 - B. 70% Isopropanol
 - C. 30% H₂O₂
 - D. 0.1% Potassium hypochlorite

6. Spontaneous generation is the belief that:
- A. Germs cause infectious diseases
 - B. Microbes are diverse and ubiquitous
 - C. Microbes placed in an infusion can grow in it
 - D. Aseptic techniques reduce microbes in medical setting
 - E. Living things arise from non-living matter
7. Which of the following is correct:
- A. *Vibrio Cholera*
 - B. *Vibrio cholera*
 - C. *Vibrio cholera*
 - D. *Vibrio Cholera*
8. Van Leeuwenhoek is associated with
- A. Preparation of vaccines against poliovirus
 - B. Observation of "animalculi"
 - C. Nature of infectious agents
 - D. Magic bullet against infectious agents
9. The two most common Sterilization methods used in the laboratory include
- A. hot air in hot air oven and sterilization by autoclaving
 - B. Autoclaving and disinfectants application
 - C. Boiling and Tyndallization
 - D. Steaming above 100°C and Sterilization by dry heat
10. In binomial nomenclature the first name is the organism's genus designation & the second is its specific epithet. Together, the two constitute.....
- A. Order
 - B. Family
 - C. Genus
 - D. Species
 - E. Sub-order
11. When carrying out health care waste management, the key steps include
- A. Minimization
 - B. Wrappings
 - C. Restorage
 - D. Use of Recyclable products
 - E. Generation

12. Organisms that are obligate aerobes grow.....
- A. Unless oxygen is present
 - B. In need of oxygen at low levels
 - C. When exposed with or without presence of oxygen
 - D. Also as facultative aerobes

13. Exotoxins are best described as
- A. Consisting of proteins
 - B. Have non-specific action
 - C. Rarely convertible to Toxoids
 - D. Consist lipopolysaccharides

14. Thrush is caused by which one of the following organisms
- A. *Cryptococcus neoformans*
 - B. *Candida albicans*
 - C. *Candida albus*
 - D. *Claviceps purpurea*
 - E. *Saccharomyces cerevisiae*

15. Which one of the following methods is applicable in microbial isolation
- A. Microscopy
 - B. Gene probes
 - C. Biochemical reactions
 - D. PCR
 - E. Cultures

16. Organisms called parasites are :
- A. always classified in the kingdom Monera
 - B. always harmful to the host
 - C. free living
 - D. Endosymbionts

SECTION B: SHORT STRUCTURED QUESTIONS

ANSWER ALL QUESTIONS -(20 MARKS)

1. State the direct identification methods in the identification of micro-organisms 5 Mks.
2. Differentiate the major characteristics of Eukaryotes and Prokaryotes 5 Mks
3. List the key steps in health care waste management 5Mk
4. State the importance of Koch's postulates 5Mk

SECTION C: ESSAY QUESTION

(QUESTIONS ONE IS COMPULSORY, THEN CHOOSE ANY OTHER QUESTION) -
(30 MARKS)

1. (a) Explain the factors to consider in selection of antiseptic 8 Marks
(b) Differentiate biosafety and biorisk 7 marks

2. Describe a typical microbial growth curve 15 Marks

3. (a) Classify the following micro-organisms of human importance 8 Marks
 - i) *Candida albicans*
 - ii) *Treponema pallidum*

- (b) Describe the proper use of microscopes in a clinical laboratory 7 marks

END