KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2019/2020

SUPPLEMENTARY/SPECIAL EXAMINATION FOR THE DEGREE OF BACHELOR OF PHARMACY LEVEL V

PPA 510 PHARMACEUTICS V

DATE: WEDNESDAY, 16TH JUNE, 2021 **TIME: 9.00 A.M. - 12.00 P.M.**

INSTRUCTIONS

i) *Answer all questions.*

ii) *Answer each section in a separate booklet.*

iii) *Any exam irregularities will lead to automatic discontinuation from the university.*

SECTION A

1. Distinguish between the sterilization parameters D-value and Z-value (2 marks)
2. Differentiate between moist heat sterilization and dry heat sterilization processes (6 marks)
3. Describe five factors that affect the efficiency of steam sterilization. (5 marks)
4. Explain five features of a biocide that affect their choice in disinfection. (5 marks)
5. Differentiate between chlorine-based disinfectants and surface-active disinfectants (6 marks)
6. Describe the steps used in the membrane filtration method of sterility testing. (6 marks)
7. Discuss four factors that are considered when formulating eye drops. (4 marks)
8. Multidose parenteral products may must have preservatives. Argue for or against this statement. (6 marks)

SECTION B

1. State five defects often seen in tablets (5 marks)

2. Describe five in process controls for tablets (5marks)

3. For each of the following excipients of tablets, state their function in a tablet formulation and give one example for each:
   i) Glidant (2 marks)
   ii) Lubricant (2 marks)
   iii) Binder (2 marks)
   iv) Disintegrant (2 marks)
   v) Colorant (2 marks)

4. Compare and contrast soft gelatin and hard gelatin capsules (10 marks)

5. Describe the first five steps involved in the wet granulation process (10 marks)

SECTION C

1. Describe the steps followed during cold filling in packaging of aerosols. (3 marks)
2. Differentiate between;
   a) Metered dose inhalers and nebulizers (2 marks)
   b) Dry powder inhalers and insufflations (2 marks)
3. Explain the role and give one example of each of the following excipients;
   a) Viscosity modifiers (1 mark)
   b) Buffers (1 mark)
   c) Reducing agents (1 mark)
   d) Density modifiers (1 mark)
4. Outline five disadvantages of powders as a pharmaceutical formulation. (5 marks)
5. Describe six approaches used to improve solubility of active pharmaceutical ingredients in aqueous solutions. (12marks)
6. State **four** quality aspects you would check in each of the following;
   a) A solution (4marks)
   b) A Powder (4marks)
   c) An Aerosol (4marks)