



UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE

ALLIED HEALTH SCIENCES DEGREE PROGRAMME

FOURTH BPHARM PART I EXAMINATION – JUNE 2015

PH 4134: PHARMACEUTICAL TECHNOLOGY (SEQ)

TIME: THREE HOURS

INSTRUCTIONS

- Answer all questions.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

1. A new antihistamine has been trialed to formulate. Each tablet of this new antihistamine contains 2 mg of the active ingredient with an approximate weight of 100 mg after compression.

1.1 Briefly explain the following terms.

1.1.1 Positive and negative mixing *(10 marks)*

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1.1.2 Convective mixing, *(10 marks)*

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1.1.3 Percolate segregation *(10 marks)*

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2.2 During compression of Salbutamol 2 mg tablets with an average tablet target weight of 100 mg, 20 tablets were randomly taken and individual weights were checked.

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| 101 mg | 105 mg |
| 89.5 mg | 110 mg |
| 88 mg | 103.6 mg |
| 108 mg | 89.9 mg |
| 111.4 mg | 90 mg |
| 100 mg | 94.6 mg |
| 92 mg | 101 mg |
| 91.4 mg | 103.8 mg |
| 98.8 mg | 110 mg |
| 101 mg | 109.2 mg |

2.2.1 Does this sample comply with the weight variation test described in the British Pharmacopeia? (25 marks)

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3.2 How does viscosity of the fluid, diameter of the pipe and fluid velocity relates with the laminar and turbulent flow of a fluid? **(10 marks)**

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3.3 Particle size is an important criterion for many pharmaceutical products. In order to achieve optimum particle size, reduction of particle size has to be taken place.

3.3.1 List down **five (05)** factors that would affect particle size reduction. **(10 marks)**

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3.3.2 Outline the main mechanisms of particle size reductions? **(20 marks)**

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3.3.3 How does size of particle would affect mixing and dissolution of the therapeutic agent?
(20 marks)

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4.1. Compare and contrast Truck and Tray Dryers and Fluidized Bed Dryers. (20 Marks)

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4.2 Draw a typical drying curve and explain the different drying phases encountered.
(50 marks)

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