THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY
ACADEMIC YEAR 2019/2020 – SEMSETER I

BACHELOR OF PHARMACY HONOURS
BPU2126- PHYSICAL PHARMACY
FINAL EXAMINATION
DURATION: TWO HOURS

DATE: 22nd SEPTEMBER 2020   TIME: 09.30A.M. –11.30 A.M.

INDEX NO: ....

Part B (30 marks)

01.

1.1. Write four (04) main applications of Thermodynamics in Pharmacy (08 marks)

I)...

II)...

III)...

IV)...

1.2 What is the meaning of Steady State Diffusion? (03 marks)

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1.3 Write two (02) applications of micromeritics in Pharmacy. (04 marks)

I)...

II)...

02.

2.1 What is thixotropy? (04 mark)

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2.2 Write three (03) main criteria which use to categorized suspensions.　(06 marks)

I)..

II)...

III)..

2.3 Write the radioactive decay equation and define all the terms in it.　(05 marks)

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Part C (40 marks)

01.

1.1 Write four (04) main pathways of chemical decomposition of drugs? (04 marks)

1.2 Name and explain briefly the degradation pathway which is prevented by storing IV single dose ampoules in opaque boxes. (03 marks)

1.3 What is an elementary reaction? (02 marks)

1.4 An unexposed co-amoxicillin suspension undergoes chemical degradation due to the atmospheric water. This degradation obeys zero order reaction rule. Give the equation which can be used to calculate the time taken to reduce its concentration by half of its initial concentration (A_o). (02 marks)

1.5 Initially a drug container had 99.90 mg/mL of co-amoxicillin and after 60 minutes it had only 38.90 mg/mL. Calculate the time taken to reduce its concentration to half of its initial concentration. (04 marks)

1.6 What will be the time if the degradation follows first order reaction rule? (05 marks)

02.

2.1 Write main steps in dissolution of solid dosage form. (03 marks)

2.2 Why is it needs to do dissolution tests for drug dosage forms? (04 marks)

2.3 Name three (03) dissolution test models. (03 marks)

2.4 Explain briefly the surface renewal theory and the diffusion layer model. (10marks)